

SERVICE MANUAL

AA-2D CHASSIS

<u>MODEL</u>	<u>DEST.</u>	<u>COMMANDER</u>	<u>CHASSIS NO.</u>
KV-32V68	U.S.	RM-Y154	SCC-S07G-A
KV-32V68	CND	RM-Y154	SCC-S08J-A
KV-35V68	U.S.	RM-Y154	SCC-S07J-A
KV-35V68	CND	RM-Y154	SCC-S08L-A



KV-35V68



RM-Y154



TRINITRON® COLOR TV
SONY®

SPECIFICATIONS

	KV-32V68	KV-35V68
Power requirements	120V, 60Hz	120V, 60Hz
Number of inputs/outputs:		
Video ¹⁾	3	3
S Video ²⁾	2	2
Audio ³⁾	3	3
Audio Out ⁴⁾	1	1
Monitor Out	1	1
TV Out ^{1) 3)}	1	1
S-Link	3	3
G-Link (IR Blaster)	1	1
Speaker output (W)	10W x 2	10W x 2
Power Consumption (W):		
In use (max.)	200W	230W
In standby	8W	8W
Dimensions (W/H/D):		
(mm)	821 x 675.3 x 587 mm	920 x 730.8 x 641.8 mm
(in.)	32 ^{3/8} x 26 ^{5/6} x 23 ^{1/2} in	36 ^{1/4} x 28 ^{3/4} x 25 ^{1/4} in
Mass:		
(kg.)	70 kg	93 kg
(lbs.)	154 lbs	205 lbs

Television system

American TV standard, NTSC

Channel coverage

VHF:2-13 / UHF:14-69 / CATV:1-125

Picture tube

Trinitron® tube

Visible screen size

32-inch picture measured diagonally (KV-32V68)

35-inch picture measured diagonally (KV-35V68)

Actual screen size

34-inch picture measured diagonally (KV-32V68)

37-inch picture measured diagonally (KV-35V68)

Antenna

75 ohm external antenna terminal for VHF/UHF

Supplied accessories

Remote control RM-Y154

Battery size AA (R6) w/2

IR Blaster

Optional accessories

Connecting Cables:

RK-74A, RK-G69HG

VMC-10HG/30HG, VMC-720M,

VMC-810S/820S, YC-15V/30V,

TV Stand: SU-32A3, SU-35A3

VHF/UHF Mixer: EAC-66

¹⁾ 1 Vp-p 75 ohms unbalanced, sync negative

²⁾ Y: 1 Vp-p 75 ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

³⁾ 500 mVrms (100% modulation), Impedance: 47 kilohms

⁴⁾ More than 408 mVrms at the maximum volume setting (variable)

More than 408 mVrms (fix); Impedance (Output): 2 kilohms

(●) ® SRS (SOUND RETRIEVAL SYSTEM)

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol (●) are registered trademarks of SRS Labs, Inc.

BBE and BBE symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258 and 4,482,866.

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WARNINGS AND CAUTIONS


CAUTION!

AFTER REMOVING THE ANODE, SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.


ATTENTION!

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RESQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT SUSPECTE.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

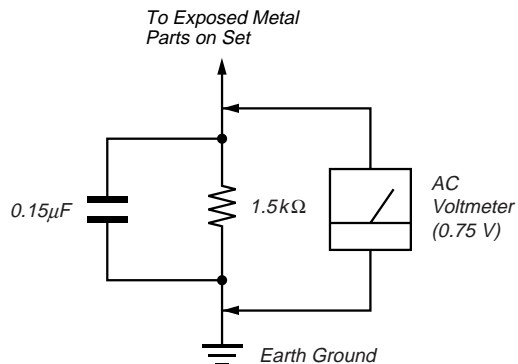


Fig. A. Using an AC voltmeter to check AC leakage.

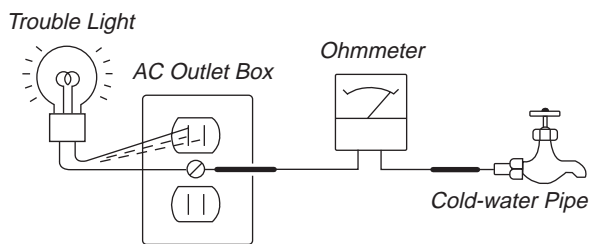


Fig. B. Checking for earth ground.

SECTION 1 GENERAL

The instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers shown reflect those of the Operating Instruction Manual.

Welcome!

Thank you for purchasing the Sony Trinitron® Color TV. Before reading this manual, check the model number located on the front of this manual or on the rear of your TV.

The menus shown in this manual are for model KV-35V68. Your menus may differ from the ones illustrated.

The features you will enjoy include:

- The GUIDE Plus+ interactive program guide system, which allows you to access program information in an on-screen program guide, sort programs by category, and to quickly schedule programs for viewing or recording. This service is yours with no monthly fee.
- Dual tuner PIP, which allows you to watch two programs at once without having to connect any additional equipment
- SRS, which allows you to listen to stereo programs in dynamic three-dimensional sound
- The FAVORITE CHANNEL feature, which allows you to preview each of your chosen favorite channels in a small window picture before you choose to tune to a particular station
- A front A/V input, for easy connection of your camcorder or game equipment
- An S Video input, for enhanced picture quality

Precautions

Safety

- Operate the TV only with 120 V AC.
- The plug is designed, for safety purposes, to fit in the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified personnel before operating it further.
- If you will not be using the TV for several days, disconnect power by pulling the plug itself. Never pull on the cord.

For details concerning safety precautions, see the supplied leaflet "IMPORTANT SAFEGUARDS".

Note

- After you plug the TV back in, you must wait 24 hours before information will be available in the Program Guide.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.

Using This Manual

This manual is divided into five major sections. We recommend that you review the contents of each section in the order presented.

1 Connecting and Installing the TV

This section guides you through your initial set up.

2 Basic Set Up

This section teaches you the basic skills needed to operate your new TV. It shows you how to operate special functions of the remote control and the GUIDE Plus+ feature.

3 Using your New TV

This section shows you how to use the Easy Set Up Guide feature, and how to use your remote control.

4 Using your Menus

This section teaches you how to access on-screen menus and adjust your TV's settings.

5 Troubleshooting

This section helps you to correct problems you may encounter with your TV.

Instructions in this manual are written for the remote control. Similar controls may be found on the TV console.

Connecting and Installing the TV

Making Connections

Refer to the table below, it will direct you to the diagram suitable to the components you will be connecting.

If you will be connecting	See page
Cable or antenna only	3
Cable and antenna	3
Cable box	4
Cable box and cable to view scrambled channels	4
VCR and cable or antenna	5
VCR and cable box	5
Direct Broadcast Satellite Receiver (DBS)	6
VCR and Direct Broadcast Satellite Receiver (DBS)	6
Digital Versatile Disc player (DVD)	7
Audio system	7
A/V receiver	8
Two VCR's for editing	8
Camcorder to view tapes	9
IR Blaster Cable* (G-Link)	9
S-Link connections	10

* IMPORTANT

- You must connect the IR Blaster in order to operate your VCR and/or cable box with the GUIDE Plus+ feature.

Note

- When using the IR Blaster and a cable box, the cable box must always be left ON to allow GUIDE Plus+ to receive information about upcoming television programs.

Connecting and Installing the TV (continued)

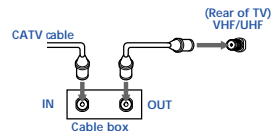
Cable Box Connections

You must connect the IR Blaster in order to operate your cable box with the GUIDE Plus+ feature. (see "Connecting the IR Blaster" on page 9)

Some pay cable TV systems use scrambled or encoded signals that require a cable box to view all channels.

Cable box

- 1 Connect the coaxial connector from your cable to the IN on your cable box.
- 2 Using a coaxial cable, connect OUT on your cable box* to VHF/UHF on your TV.



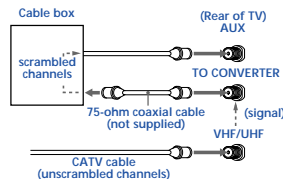
Cable box and cable

For this set up, you can switch between scrambled channels (through your cable box*), and normal (CATV) channels by pressing ANT on your remote control.

Notes

- The GUIDE feature will not function for items connected to the AUX input.
- When using PIP, you cannot view the AUX input (scrambled channels) in the window picture.
- If you are using a cable box with the GUIDE Plus+ feature, when viewing PIP the same picture will be displayed in the main and window picture. (see page 25)
- When using the IR Blaster and a cable box, the cable box must be left ON at all times to allow the GUIDE Plus+ feature to receive information about upcoming television programs.

If you are connecting a cable box through the AUX input and would like to switch between the AUX and normal (CATV) input, you should consider using the CHANNEL FIX feature discussed on page 31.



VCR Connections

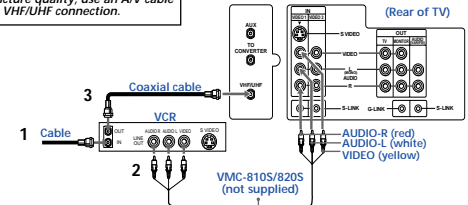
You must connect the IR Blaster in order to operate your cable box with the GUIDE Plus+ feature.

Connecting an antenna/cable TV system with a VCR

- 1 Attach your cable or antenna to IN on your VCR.
- 2 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.*
- 3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.

* If you are connecting a monaural VCR, connect only the single white audio output to the left input on your TV.

For superior picture quality, use an A/V cable instead of the VHF/UHF connection.



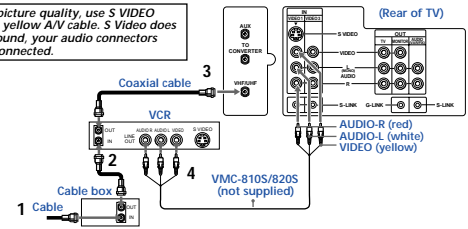
Connecting a VCR and TV with a cable box

- 1 Attach your cable to IN on your cable box.**
- 2 Using a coaxial connector, connect OUT on your cable box to IN on your VCR.
- 3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.
- 4 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

Notes

- To record programs using VCR Plus+, your VCR must be set to channel 3 or 4, preferably the channel which does not receive a broadcast channel in your area.

For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.



Connecting and Installing the TV (continued)

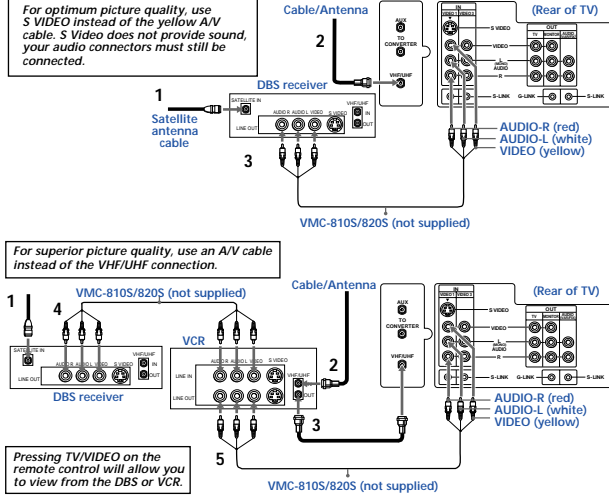
DBS Connections

Connecting a DBS (Direct Broadcast Satellite) receiver

- 1 Connect the cable from your satellite antenna to SATELLITE IN on your DBS receiver.
- 2 Connect your cable or antenna to VHF/UHF on your TV.
- 3 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your TV.

Connecting a DBS (Direct Broadcast Satellite) receiver and a VCR

- 1 Connect the cable from your satellite antenna to SATELLITE IN on your DBS receiver.
- 2 Connect your cable or antenna to VHF/UHF IN on your VCR.
- 3 Using a coaxial connector, connect VHF/UHF OUT on your VCR to VHF/UHF on your TV.
- 4 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your VCR.
- 5 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.



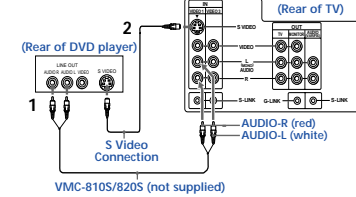
6

Additional Connections

The following connections are for accessories that will enhance your viewing options.

Connecting a DVD Player

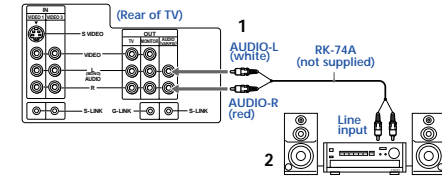
- 1 Using audio connectors, connect AUDIO-R and AUDIO-L OUT from LINE OUT on your DVD to AUDIO-R and AUDIO-L IN from VIDEO IN on your TV.
- 2 Connect S-Video from your DVD player to your TV.



Connecting an audio system

For enhanced sound, connect your audio system to your TV.

- 1 Using AUDIO connectors, connect AUDIO OUT on your TV to one of the unused line inputs (e.g. TV, AUX, TAPE 2) on your stereo.
- 2 Set your stereo to the chosen line input. Refer to page 29 of this manual for additional audio setup instructions.



7

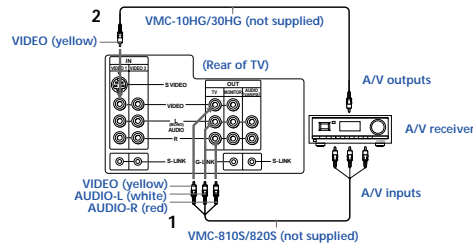
Connecting and Installing the TV (continued)

Connecting an A/V receiver

- 1 Using A/V cables, connect TV OUT on your TV to TV IN on your A/V receiver.
- 2 Using a single video connector, connect MONITOR OUT on your A/V receiver to VIDEO 1 IN on your TV.

Note

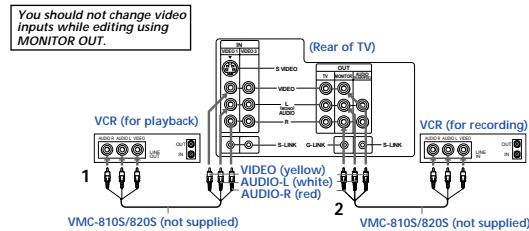
- When you are in a video mode (VIDEO 1, 2, or 3), you will not be able to access the GUIDE Plus+ feature.



Connecting two VCRs for editing

MONITOR OUT gives you the ability to use a second VCR to record a program being played by the primary VCR or to perform tape editing and dubbing.

- 1 Connect the VCR intended for playback using the setup instructions on page 5 of this manual.
- 2 Using A/V connectors, connect AUDIO and VIDEO IN on your VCR intended for recording to MONITOR AUDIO and VIDEO OUT on your TV.



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Connecting a camcorder

This connection is convenient for viewing a picture directly from your camcorder.

Using A/V connectors, connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV.

Connection can also be made directly to your A/V input located on the rear of your TV.

Note

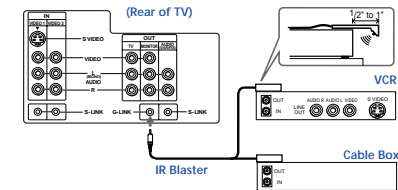
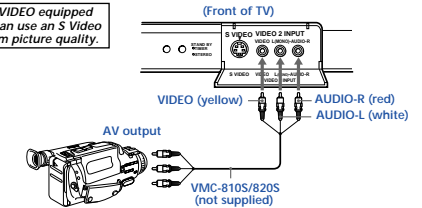
- If you are connecting a monaural camcorder, connect only the single white audio output to the left input on your TV.

Connecting the IR Blaster (G-Link)

You must connect your IR Blaster to automatically control your VCR and/or cable box with the GUIDE Plus+ feature.

- 1 Connect the IR Blaster to the TV's G-Link jack.
- 2 Place the IR Blaster on top of (or below) and overhanging the front of the VCR and/or cable box, about 1/2" to 1". For best results, place the IR Blaster directly above (or below) the VCR's and/or cable box's IR receiving area.
- 3 Set the manufacturer and code type of your VCR/cable box, using the GUIDE PLUS+ SET UP menu (see page 31). This code must be set for the GUIDE Plus+ feature to function properly.

If you have an S VIDEO equipped camcorder, you can use an S Video cable for optimum picture quality.



9

Connecting and Installing the TV (continued)

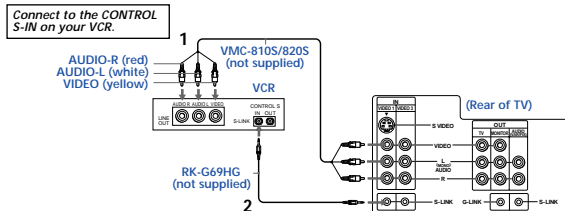
S-Link connections

S-Link is designed to allow your Sony components to "communicate."

Connecting S-Link to a VCR

S-Link will automatically power on the TV and switch to the correct video input when a tape is inserted in the VCR.

- Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.
- Using an S-Link connector (mini plug), connect S-LINK / CONTROL S-IN on your VCR to S-LINK on your TV.



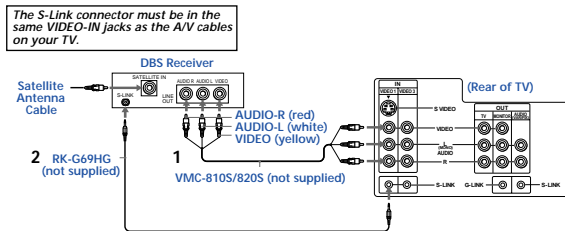
Connecting S-Link to a DBS

S-Link will automatically power on the TV and switch to the correct video input when you power on the DBS.

- Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS to AUDIO and VIDEO IN on your TV.
- Using an S-Link connector (mini plug), connect S-LINK on your DBS to S-LINK on your TV.

Note

- Do not connect S-Link to the G-Link jack on your TV.



10

Using Your New TV

Setting up the TV automatically

The Easy Setup Guide allows you to set the on-screen language and set all receivable channels in one step.

To set up the TV manually, refer to "Using the SET UP menu" on page 31.

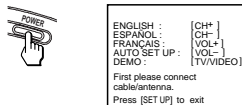
Tips

- Perform this function during the day, with the antenna and/or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- The TV must be set to the TV input to execute AUTO PROGRAM. Press TV/VIDEO until a channel number appears.
- If your cable or antenna is connected to AUX, press ANT until AUX appears next to the channel number.

Using the buttons on the top of the TV:



- Press POWER to turn on the TV. The Easy Setup Guide screen appears.

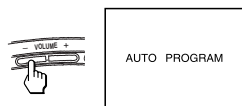


- Make your language selection by pressing CH+, CH-, or VOL+.



- Press VOLUME - to continue or TV/VIDEO for a DEMO of functions and menus.

A message will appear, asking if you want to continue to AUTO PROGRAM. Press CH+ to continue.



AUTO PROGRAM appears and the TV starts scanning and presetting channels automatically. If the TV receives cable TV channels, CABLE is set ON automatically.

To perform AUTO SET UP again

Press the SET UP button on the TV and follow steps 2-3.

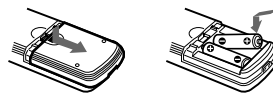
Notes

- To reset your TV to factory settings, turn the TV on. Then, while pressing the RESET button on your remote control, press the POWER key on your TV. The TV will turn itself off, then back on.
- When you perform AUTO PROGRAM, your CHANNEL FIX, CHANNEL BLOCK, and ON/OFF TIMER settings, as well as your GUIDE Plus+ settings and program information will be erased.

Basic Set Up

Inserting batteries

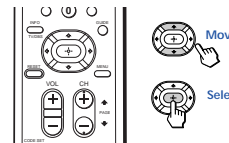
Insert two size AA (R6) batteries (supplied) by matching the + and - on the batteries to the diagram inside the battery compartment.



Notes

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see page 34)

Using the remote control move & select buttons



The supplied remote control has "arrow" buttons (▲, ▼, ◀, ▶) which allow for movement of the on-screen selector. Pressing on the outer buttons will cause the selector to *move* in the corresponding direction. Pressing the center button (◻) will select the item.

Adjustment bars

When menu items present an adjustment bar (— or —), use the arrow buttons to change the setting.

On-screen help/instructions

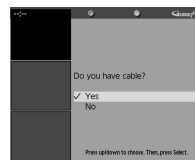
Several menu windows will provide prompts and instructions to assist you in navigating through the different functions. When presented, use these to supplement the instructions in this manual.

11

Setting up the GUIDE Plus+™ feature

After you have set up your TV using the Easy Setup Guide, you will be prompted to set up your GUIDE Plus+ feature.

Several questions will appear on your screen. You will be asked to enter specific information, such as your location, zip or postal code, whether you will be connecting cable, a cable box, or a VCR, etc.



To answer each question, highlight the appropriate answer, and press the ◻ button on the remote control. In some instances, like when you are asked to enter your zip or postal code, you will need to enter numerical information using the ▲/▼ buttons on the remote control.

After you have completed your GUIDE Plus+ set up, you can choose to view a Demo of the GUIDE Plus+ features. If you wish to view this Demo again, after you have exited from GUIDE Plus+ set up, you can re-enter GUIDE Plus+ set up through the TV's SET UP menu. (see GUIDE PLUS+ SET UP on page 31)

If you choose to set AUTO GUIDE to ON, the program guide will appear each time you turn the TV on using your remote control.



Within 24 hours of your initial set up of the GUIDE Plus+ feature, you will be able to view program guides on your TV.

If you make a mistake during your set up, or you would like to connect new components to your TV, you can reenter the GUIDE Plus+ SET UP menu. (see "GUIDE PLUS+ SET UP" on page 31)

Notes

- PIP must be OFF to allow the GUIDE Plus+ feature to receive program information.
- If you have connected a cable box to your TV, the TV must be turned off, and the cable box left on, in order to receive program information.
- If there is more than one cable company in your area, you will be asked to choose a "Channel Map" which matches yours (i.e., Fox = 6, NBC = 7, etc.).
- The GUIDE Plus+ feature menus are only available in English.
- The GUIDE Plus+ feature may not be available in all areas. If the GUIDE Plus+ feature is not available in your area, please contact the Sony Direct Response Center at the number listed on page 38 of this instruction manual.


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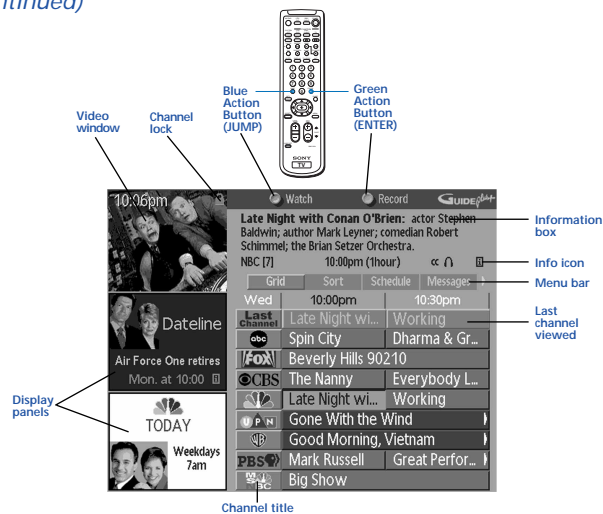
Using Your New TV (continued)

Using the GUIDE Plus+ Feature

The GUIDE Plus+ feature allows you to see local TV programming, set your VCR to record programs, sort programs by category, set your TV to turn on and tune to a program, and receive information about program content. All this can be done while viewing your current channel in a video window.

Press  to view the first screen, the Program Grid.

- When you press MENU, the highlight jumps to the menu bar.
- The GUIDE Plus+ feature will not function when your video source is from video equipment or from the AUX input.
- Press the ANT button to return to the VHF/UHF input before accessing the GUIDE Plus+ feature.



14

Using Your New TV (continued)

Using the GUIDE Plus+ Buttons

The GUIDE Plus+ feature offers on-screen program information. Use the chart and illustration on this page to learn how to access and use the GUIDE Plus+ feature with your remote control.













Note

- You must connect your IR Blaster in order to operate your VCR and/or cable box. This will allow the GUIDE Plus+ feature to tune to and record programs.












16

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Use the Purple Labeled Buttons for the GUIDE Plus+ Feature Operations










	Pressing the VCR+ button allows you to program your VCR to record TV programs using the VCR Plus+ code system. You can find the PlusCode programming number codes in your newspaper's Program Guide. You must have a VCR and an IR Blaster properly connected and set up in order to record programs using the VCR Plus+ feature. Press VCR+ again to exit the VCR Plus+ screen. Once a program has been scheduled for recording using the VCR Plus+ system, you can review your selection, change the frequency of recording, or cancel the recording within the GUIDE Plus+ SCHEDULE screen. (see "SCHEDULE" on page 21)
	Pressing the  button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
	Press the  button to choose the left (blue) action button (as displayed at the top of the Program Grid).
	Press the  button to choose the right (green) action button (as displayed at the top of the Program Grid).
	Pressing the INFO button will show additional information about a selected program or future programming on the selected channel, if available. An info icon  will appear on the screen to indicate when information is available. You must press the INFO button again to return to basic information.
	Pressing the GUIDE button will activate the GUIDE Plus+ screen. Pressing again will exit the GUIDE Plus+ screen.

Using the GUIDE Plus+ Feature

Video Window	The video window allows you to view a program while in the Program Grid. Pressing the  button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
Channel Lock	This symbol indicates whether Channel Lock is on or off. Pressing the  button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
Blue Action Button	This symbol and corresponding text indicates what will happen when you press the Blue Action Button  on your remote control.
Green Action Button	This symbol and corresponding text indicates what will happen when you press the Green Action Button  on your remote control.
Information Box	Provides information regarding each program which is highlighted as you scroll through the Program Grid.
Info Icon	Icon appears if additional information about a program being described in the Information box is available. When the Info icon appears, press the  button on the remote control to access additional information.
Menu Bar	Offers several options for setting up and using the GUIDE Plus+ feature. Menu items include GRID (see page 20), SORT (see page 21), SCHEDULE (see page 21), MESSAGES (see page 22), EDITOR (see page 22), and SETUP (see page 22).
Last Channel Viewed	While in the grid, the last channel viewed will remain highlighted in gray.
Display Panels	Display panels show information about future programming. After highlighting a display panel, you will be able to access expanded program information  for the program advertised, when this information is available. After you have highlighted a display panel, you can press  to schedule the program for viewing, or  to schedule the program for recording.
Channel Ads	Sometimes, a channel ad will be displayed within the Program Grid. After highlighting a channel ad, you will be able to access expanded information  for the program or channel advertised, when this information is available. After you have highlighted a display panel, you can press  to schedule the program for viewing, or  to schedule the program for recording.

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Use the Purple Labeled Buttons for the GUIDE Plus+ Feature Operations

	Press to scroll  , a page at a time, while in the GUIDE Plus+ screen.
	Pressing the MENU button will move you between the grid and the menu bar.
	Press the arrow keys ( ,  ,  , ) to scroll in any direction while using GUIDE Plus+ and press the select button  to choose the option.

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Using Your New TV (continued)

Learning to view a program using the GUIDE Plus+ feature

Use the GUIDE button to access the Program Grid and use the arrow buttons (▲ or ▼) to select a program. Use the following example, in which we select a program to be viewed to learn how to use the GUIDE Plus+ feature.

- 1 Press the GUIDE button. The Program Grid appears.



- 2 Press ▲ to highlight the desired program (in this case "Spin City").



- 3 Press WATCH to select the program.



Learning to schedule viewing and recording using the GUIDE Plus+ feature

- 1 Press the GUIDE button. The Program Grid appears.



- 2 Use the ▲/▼/▲/▼ buttons to move to a future program which you would like to schedule for viewing.



- 3 Press the blue action button WATCH to select WATCH.
- 4 Press GUIDE to return to the last channel viewed.

To automatically schedule future viewing:

Press the blue action button WATCH once, and the program will automatically be scheduled for viewing at the time indicated within the Program Grid. The color of the highlight within the Program Grid will change to red to indicate that this program has been scheduled for viewing.

To enter the Schedule Menu to set up future viewing:

Press the blue action button WATCH, then the green action button SCHEDULE. Your scheduled viewing option will appear on the screen.

To change the frequency of your scheduled viewing:

In the Schedule Menu, press the green action button SCHEDULE to change your viewing option. As you press the green action button SCHEDULE, you will cycle through the frequency viewing



options (once, daily, or weekly).

Note

- You must connect your IR Blaster in order to operate your VCR and/or cable box. This will allow the GUIDE Plus+ feature to tune and record programs.

To schedule recording

Follow the directions provided on this page for scheduling viewing. In step 3, press the green action button SCHEDULE instead of the blue action button WATCH. This will schedule the chosen program for recording. A program scheduled for recording will appear highlighted in orange within the Program Grid.

Note

- The VCR must be set up correctly during GUIDE Plus+ set up in order for scheduled recording to function properly.

To cancel viewing or recording

If you wish to cancel viewing or recording of a program, enter the schedule screen, highlight the program, and press SCHEDULE.

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Using Your New TV (continued)

GRID

The main viewing screen

The program title of the last channel viewed is highlighted and basic information for the program is displayed in the information box.

Use the ▲/▼/▲/▼ buttons to navigate to different program names, time slots (through midnight of the following day), and channel ads within the grid.

To record a program:

To record a program, you must first connect the IR Blaster. (see "Connecting the IR Blaster" on page 9)

- 1 Highlight the program title and press the blue action button WATCH.
- 2 To change your scheduled recording, press the green action button SCHEDULE. Once you enter the schedule screen, you can choose to record the program once, repeatedly (daily, weekly), or to cancel recording.

To schedule to watch a program:

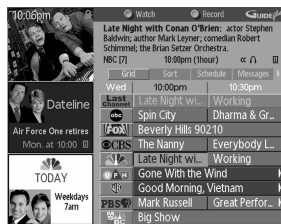
- 1 Highlight the program title and press the blue action button WATCH.
- 2 To change your scheduled viewing, press the green action button SCHEDULE. Once you enter the schedule screen, you can choose to watch the program once, repeatedly (daily, weekly), or to cancel scheduled viewing.

To jump to a specific channel within the grid, enter the channel number on the remote control's keypad.

To lock/unlock the video window, press the LOCK button. A lock icon will appear in the video window when the picture is locked.

Unlocked, the video window will display the current program as you scroll through the channel listings.

Locked, the video window will not change as you scroll through the channel listings. If you set the lock while in the grid, the video window will remain locked to the channel you are on. If the lock is already set when you enter the grid, the video window will be locked to the last channel viewed.



Notes

- You must connect the IR Blaster in order to operate your VCR and/or cable box with the GUIDE Plus+ feature.
- When using the IR Blaster and a cable box, the cable box must be left ON at all times to allow GUIDE Plus+ to receive information about upcoming television programs.
- The TIMER light on the front panel of your TV will not light up when programs are scheduled for viewing using the GUIDE Plus+ feature "WATCH" function.
- If you have connected your TV to a cable box, and are recording using the GUIDE Plus+ feature, you will not be able to change channels during recording.

SORT

To watch/record movies

SORT allows you to organize, select and schedule programs to watch and record.

While in the Program Guide:

- 1 Press MENU.
- 2 Press ▲ to highlight SORT and press SCHEDULE. First level SORT appears on the screen, displaying the last category selected (Movies, Sports or Children's).
- 3 Press ▲ to choose a new category, then press SCHEDULE.
- 4 Press ▲ to choose a new subcategory, then press SCHEDULE.
- 5 After choosing a subcategory, you will be able to view all programs available in that subcategory over an eight day period. To schedule a program to be watched, press the blue action button WATCH. To schedule a program to be recorded, press the green action button SCHEDULE.

If expanded information about a program in the sort screen is available, the INFO button will appear in the Information Box. Press INFO to access this information.



The display panels within SORT show information about future programming. After highlighting a display panel, you will be able to access expanded program information INFO for the program advertised, when this information is available. After you have highlighted a display panel, you can press WATCH to schedule the program for viewing, or SCHEDULE to schedule the program for recording.

SCHEDULE

To adjust program scheduling

SCHEDULE allows you to adjust viewing/recording times of programs.

While in the Program Grid:

- 1 Press MENU.
 - 2 Press ▲ to get to SCHEDULE and press SCHEDULE.
 - 3 To REMOVE a scheduled program, scroll to it and press the blue action button WATCH.
- To CHANGE a scheduled program, scroll to it and press the green action button SCHEDULE. Programs that have been scheduled for viewing will appear in red within the Program Grid. Programs that have been scheduled for recording will appear in orange within the Program Grid.



Using Your New TV (continued)

MESSAGES <i>To view messages</i>	MESSAGES allows you to view system messages. While in the Program Guide: 1 Press MENU. 2 Press \blacktriangle to get to MESSAGES and press $\left(\frac{\square}{\square}\right)$. Messages related to the system will be displayed, if none are available the GUIDE Plus+ ID number will be displayed. If messages remain unread for a prolonged period, they will be automatically deleted.
EDITOR <i>To turn channels ON/OFF in the</i>	EDITOR allows you to adjust channel availability within the grid while using the GUIDE Plus+ feature. While in the Program Guide: 1 Press MENU. 2 Press \blacktriangle to get to EDITOR and press $\left(\frac{\square}{\square}\right)$. All channels available are listed. 3 To CANCEL any further changes, press the blue action button $\left(\frac{\square}{\square}\right)$. 4 To turn a channel ON/OFF, scroll to it and press the green action button $\left(\frac{\square}{\square}\right)$. To reassign a channel number , highlight the channel within the EDITOR screen, and enter the new channel number on the remote control's keypad. The order of channels within the Program Grid cannot be changed. The GUIDE Plus+ EDITOR functions independently of your TV's CHANNEL SKIP/ADD feature. (see page 31 for information on CHANNEL SKIP/ADD)
SETUP <i>To use or program the GUIDE Plus+</i>	SETUP allows you to start/change the GUIDE Plus+ feature settings and to view a demonstration of its features. While in the Program Guide: 1 Press MENU. 2 Press \blacktriangle to get to SETUP and press $\left(\frac{\square}{\square}\right)$. The setup screen will appear. 3 To change your settings, select SETUP. 4 To view the demonstration, select DEMO.



Watching the TV

The following chart will explain the function of the buttons found on your remote control.



REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for TV Operations	
	Press when you want to turn connected equipment on and off. You can program your remote control to operate other video equipment. (see "Operating Video Equipment" on page 34)
	Press when you want to control connected equipment with your remote control. (see pages 34-36 for instructions on programming your remote control)
	Use for direct channel selection. Press 0-9 to select a channel, the channel will change after 2 seconds, or you can press ENTER for immediate selection.
	Press to scan through the channels. Keeping the CH + or - pressed allows you to rapidly scan to the desired channel.
	Press to alternate or jump back and forth between two channels. You can jump between the last two channels selected with the 0-9 keys. This button can also be used to activate on-screen options while using the GUIDE Plus+ feature.
	Press to mute the sound (MUTING will appear on the screen). Press again or press VOL + to restore sound.
	Press repeatedly until the TV displays the approximate time in minutes (30, 60, or 90) that you want the TV to remain on before turning off automatically. Cancel by pressing until SLEEP OFF appears.

Using Your New TV (continued)

Using the White Labeled Buttons for TV Operations	
	Use to activate a channel selected with the 0-9 buttons. Use to activate on-screen options while using the GUIDE Plus+ feature.
	Pressing the MTS button will cycle through the MTS options (STEREO, SAP, MONO). (see the MTS section in "Using the AUDIO" menu on page 29)
	Press repeatedly to cycle through the available displays: Status Channel number, current time, channel caption (if set) are displayed. CAPTION VISION Closed captioning will be displayed if the broadcaster offers this service. (see right) To cancel the display, press DISPLAY until DISPLAY OFF appears.
	Press repeatedly to cycle through available video inputs: TV, VIDEO 1, VIDEO 2 and VIDEO 3 When you are in a video mode (VIDEO 1, 2, or 3), you will not be able to access the GUIDE Plus+ feature.
	Press to change the VHF/UHF input to the AUX input. Press to change from VIDEO input to TV input. For detailed connection information, see "Cable and antenna" or "Cable box and cable" on pages 5-6. The GUIDE Plus+ feature cannot be accessed in AUX mode.
	Press when you are finished using a VCR and you want to switch to the TV input when your remote control is in VCR mode. Your VCR power will remain on.
	The SYSTEM OFF button allows you to power off all Sony equipment at once.

CAPTION VISION (Closed Caption)



CAPTION VISION can be used for programs that are broadcast with closed captioning.

CC1, 2, 3 or 4
Shows you a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs)

TEXT1, 2, 3 or 4
Shows you network/station information presented using either half or the whole screen.

XDS (Extended Data Service)
Shows a network name, program name, program length, and time of the show if the broadcaster offers this service.

Note

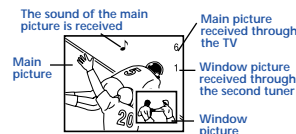
- Poor reception of TV programs can cause errors in CAPTION VISION and XDS. Captions may appear with a white box or other errors instead of intended text.

Watching two programs at one time - PIP

These models are equipped with dual tuners. This means that PIP is "ready to use".



REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART



Notes

- You must press TV (FUNCTION) before you can control PIP with the yellow labeled buttons.
- The AUX input cannot be viewed in the window picture.
- If you have connected a cable box and activated the GUIDE Plus+ feature, the same picture will appear in both the main picture and window picture.

Use the Yellow Labeled Buttons for PIP Operations

	Press once to display the window picture (1/9 size). Press again to reduce the size of the window picture (1/16 size). Press a third time to remove the window picture.
	Press repeatedly to cycle through available video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3
	Press to alternate sound between the main picture and the window picture. A A will appear for a few seconds to indicate which picture is receiving sound.
	Press to change the TV channel in the window picture.
	Press to move the location of the window picture (counterclockwise) around the main picture.
	Press to freeze the window picture. Great for copying down phone numbers, addresses, recipes, etc. Press FREEZE again to restore the picture.
	Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be swapped.

Using Your Menus

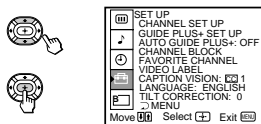
Learning menu selection

Use the MENU button to access a menu and use the arrow buttons (▲ or ▼) to alter settings. Use the following example, in which we activate the CABLE, to learn how to modify settings.

- 1 Press the MENU button.
The main menu appears.



- 2 Press ▲ or ▼ to highlight the desired menu (in this case SET UP) and press (ENTER) to select it.



- 3 Press ▲ or ▼ to move to the desired option.



- 4 Press (ENTER).
Options for your selection will be highlighted.



- 5 Press ▲ or ▼ to make your selection and press (ENTER).



When you are finished making changes to the selected menu, choose > MENU to return to the main menu.

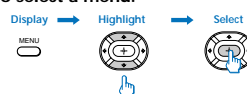
Notes

- Pressing MENU on the remote control will allow you to exit from the menus at any time.

Quick start to the menus

The following will give you a quick start to the options available for setting up your TV.
For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 25.

To select a menu:



	The VIDEO menu allows you to make adjustments to your picture settings. It will allow you to customize the picture MODE based on the type of program you are viewing.
	The AUDIO menu offers enhanced audio options such as listening to second audio programming (SAP), or customizing the EFFECT of the sound on your TV.
	The TIMER menu sets the clock on your TV and allows you to program your TV for scheduled viewing using the ON/OFF TIMER.
	The SET UP menu provides several options for setting up your channels, labeling your TV/VIDEO inputs, and selecting the LANGUAGE of your menus. The CHANNEL SET UP menu is a sub-menu which provides further options for setting up your TV.
	The Basic Menu provides quick access to frequently used settings.

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Using Your Menus (continued)

Using the VIDEO menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the VIDEO menu:

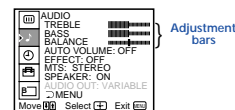


To restore the factory VIDEO settings

Press RESET while the VIDEO menu is displayed.

MODE <i>Customized picture viewing</i>	VIVID: Select for a vivid, bright picture for daytime viewing. STANDARD: Select to receive a standard picture. MOVIE: Select for night time movie viewing.
PICTURE <i>Picture contrast</i>	Adjust left to decrease picture contrast and soften the color. Adjust right to increase picture contrast and create more vivid color.
BRIGHTNESS <i>Picture adjustment</i>	Adjust left to darken the picture. Adjust right to brighten the picture.
COLOR <i>Color saturation</i>	Adjust left to decrease color intensity or saturation. Adjust right to increase color intensity or saturation.
HUE <i>Color tones</i>	Adjust left to increase the red tones. Adjust right to decrease the red tones.
SHARPNESS <i>Picture detail</i>	Adjust left to soften the picture detail. Adjust right to sharpen the picture detail.

Using the AUDIO menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the AUDIO menu:



To restore the factory AUDIO settings

Press RESET while the AUDIO menu is displayed.

TREBLE	Adjust left or right to decrease or increase higher pitched sound.
BASS	Adjust left or right to decrease or increase low pitched sounds.
BALANCE	Adjust left or right to emphasize right and left speaker volume.
AUTO VOLUME <i>Stabilizes volume</i>	ON: Select to stabilize the volume. OFF: Select to turn AUTO VOLUME off. Press (ENTER) for direct selection of AUTO VOLUME settings.
EFFECT <i>Enhanced audio options</i>	Press ▲ or ▼ to select one of these customized effects: SIMULATED: Adds a stereo-like effect to mono programs. SRS: Produces a dynamic three dimensional sound for stereo audio signals.
MTS <i>Enjoy stereo, bilingual and mono programs</i>	MTS: Press ▲ or ▼ to select one of the following options: STEREO: Select when viewing a broadcast in stereo. SAP: Select to listen to bilingual broadcast. (Non-SAP programs will be muted when this feature is selected) MONO: Select to reduce noise during stereo broadcasts for areas of weak reception. Quick MTS access: Press MTS on your remote control to cycle through the MTS options.
SPEAKER <i>Custom selection of audio output source</i>	ON: Select to listen to the sound from the TV speakers with or without a separate stereo system. OFF: Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers.
AUDIO OUT <i>Use to control the TV's volume through a stereo</i>	AUDIO OUT can only be set when SPEAKER is set to OFF. VARIABLE: Sound output varies according to the TV settings. Useful when you want to use your TV's remote control to adjust the output of a separate audio system. FIXED: Sound output is held at a fixed level through your stereo. Use your A/V receiver's remote control to adjust the volume.

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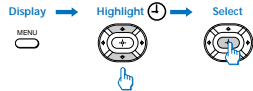
Using Your Menus (continued)

Using the TIMER menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the TIMER menu:


























To cancel the ON/OFF TIMER function

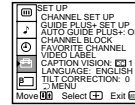
Press RESET while the ON/OFF TIMER menu is displayed.

Note

- The GUIDE Plus+ feature will automatically set your clock. If the DAYLIGHT SAVING and CURRENT TIME SET options are grayed out, this is because the clock has automatically been set.
- Your TV's ON/OFF TIMER will not function when you are watching a program which has been scheduled for viewing using the GUIDE Plus+ feature.

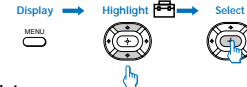
DAYLIGHT SAVING <i>Automatically adjusts the time</i>	Set DAYLIGHT SAVING time before setting the clock. Spring: Select YES to compensate for Daylight Saving Time. The current time moves one hour ahead. Fall: Select NO at the end of Daylight Saving Time. The current time moves back one hour.
CURRENT TIME SET <i>Necessary for the ON/OFF TIMER</i>	With the CURRENT TIME SET menu open: 1 Press  . 2 Press  or  until the current day is displayed. Press  to select. 3 Press  or  until the current hour and AM/PM is displayed. Press  to select. 4 Press  or  until the current minute is displayed, press  . The clock is set. Press MENU to exit. <i>Any loss of power will cause these settings to be erased.</i>
ON/OFF TIMER <i>Wake up or scheduled viewing</i>	With the ON/OFF TIMER menu open: 1 Press  . 2 Press  or  until the desired day or range of days is displayed. Press  to select. 3 Indicate the time that you want the TV to turn on by pressing  or  and then  . 4 Set the time duration (maximum of 6 hours) by pressing  or  and then  . 5 Press  or  until you reach the desired channel. Press  to select. The ON/OFF TIMER is now set. Press MENU to exit. <i>When you perform AUTO PROGRAM, all ON/OFF TIMER settings will be erased.</i>

Using the SET UP menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the SET UP menu:



Notes




- Your remote control can be programmed to operate your cable box. (see page 36)
- When using the GUIDE Plus+ feature with a cable box, the CHANNEL FIX function will not be available. Your TV is automatically fixed to the appropriate channel using the GUIDE Plus+ feature.
- ON/OFF TIMER and CHANNEL BLOCK settings will be erased when CHANNEL FIX is set.
- If you use the CHANNEL FIX feature, you will not be able to tune to channels through the GUIDE Plus+ Program Guide.

CHANNEL SET UP

Basic set up options for viewing

The functions within the CHANNEL SET UP menu will not be available if you use a cable box with the GUIDE Plus+ feature.

With the CHANNEL SET UP menu open:

Press  or  to access a feature, then press .

CABLE: Select ON if your TV is connected to a cable system. After setting CABLE, you will need to run AUTO PROGRAM.

CHANNEL FIX: Press  or  to set the TV's input to one of the following options:

2-6: When a cable box is connected to the VHF/UHF input. Press DBS/CABLE (FUNCTION) and then CH +/- to change channels through your cable box.


AUX 2-6: When a cable box is connected to AUX and a cable or antenna is connected to VHF/UHF. You can alternate between the two inputs by pressing ANT on the remote control.

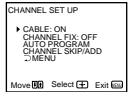
VIDEO 1: When you have connected video equipment (e.g. A/V receiver) and you want the TV input fixed to it. You will be able to alternate between video sources using the A/V receiver.

OFF: When you want to turn CHANNEL FIX off.

AUTO PROGRAM: Instructs the TV to program all receivable channels.

CHANNEL SKIP/ADD: With the CHANNEL SKIP/ADD window open:

- Select the desired channel.
- Press  to SKIP or ADD (only one option will be available). If you SKIP or ADD a channel, the channel's status within the Program Grid will not change. To add or delete channels in the grid, you must use the EDITOR function. (see page 22)



GUIDE PLUS+ SET UP



























AUTO GUIDE PLUS+

This activates the GUIDE PLUS+ set up screen. (see "SET UP" on page 13) The GUIDE PLUS+ SET UP menu cannot be accessed when you are in AUX, or VIDEO 1/2/3 mode.

ON: The GUIDE Plus+ feature automatically appears when the TV is turned on using the remote control.
OFF: You must press the GUIDE button to access the GUIDE Plus+ feature.

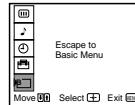
31

Using Your Menus (continued)

CHANNEL BLOCK <i>Prevent child access to certain channels</i>	With the CHANNEL BLOCK window open: 1 Choose 1 or 2 and press  . 2 Press  or  to display the channel you want to block, press  to activate. When you select the blocked channel, BLOCKED will appear on the screen. When you perform AUTO PROGRAM, your CHANNEL BLOCK settings will be erased. To erase the CHANNEL BLOCK settings, press RESET while the CHANNEL BLOCK menu is displayed. The CHANNEL BLOCK feature will not be available if you use a cable box with the GUIDE Plus+ feature.
FAVORITE CHANNEL <i>Quick access to favorite channels</i>	Setting FAVORITE CHANNEL: 1 Press  and then  or  to select AUTO or MANUAL. (Selecting AUTO will display the last five channels chosen with the remote control's 0-9 buttons.) 2 Press  or  to move the cursor to 1, 2, 3, 4 or 5 and press  . 3 Press  or  to access the desired channel and press  . To preview your favorite channels in the window picture, set PREVIEW to ON. If you are using a cable box with the GUIDE Plus+ feature, the PREVIEW function will not be available. Using FAVORITE CHANNEL: 1 Press  when in normal viewing mode. Your FAVORITE CHANNEL options will appear. 2 Press  or  to access the channel you want to watch, and press  . If PREVIEW is ON, a window picture displays your favorite channels as you cycle through the options. Channels selected through the AUX input will not appear in the FAVORITE CHANNEL menu.
VIDEO LABEL <i>Label connected equipment for easy recognition</i>	With the VIDEO LABEL window open: 1 Press  or  to access the input mode you want to label and press  . 2 Press  or  to choose the label and press  . VIDEO LABEL Options: VIDEO 1: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV. VIDEO 2/3: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV, SKIP. When VIDEO LABEL is set to WEB, the picture will darken, creating an ideal picture for WebTV viewing. If you select SKIP, your TV will skip this connection when you cycle through video sources using the TV/VIDEO button.
LANGUAGE	Select from available languages to display all menus in your language of choice. GUIDE Plus+ menus are only available in English.
TILT CORRECTION <i>Adjust your picture</i>	(KV-35V68 only) Use this feature to correct any tilt of the picture. Press  or  to select a correction between +5 and -5 and press  .

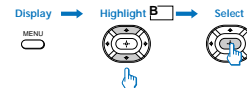
32

Using the Basic Menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the Basic Menu:







Note



- The TV automatically displays the last menu used when MENU is pressed.

Basic Menu

Quick access to frequently used settings

With the Basic Menu window open:



- Press  or  to access the feature you want to change.
- Press  or  to select.



VIDEO MODE: Press  or  to set the TV to one of the following settings:

VIVID: Select for a vivid, bright picture for daytime viewing.

STANDARD: Select to receive a standard picture.

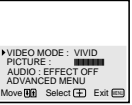
MOVIE: Select for night time movie viewing. (see page 28)

PICTURE: Press  or  to adjust the picture contrast. (see page 28)

AUDIO: Press  or  to set your audio to one of the following settings:

SIMULATED: Adds a stereo-like effect to mono programs.
SRS: Produces a dynamic three dimensional sound for stereo audio signals. (see page 29)

ADVANCED MENU: Select when you want to return to the main menus.



33

Operating Video Equipment

Programming the remote

You can use the supplied remote control to operate Sony or non-Sony video equipment.

- 1 Press CODE SET.
- 2 Press VTR/DVD (FUNCTION).
- 3 Use the 0-9 buttons to key in the manufacturer's code number from the following chart.

- 4 Press ENTER.

VCR code numbers

Manufacturer	Code
Sony	301, 302, 303
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332

Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332

Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Operating a VCR

	remote control
To turn on or off	Press VTR/DVD (POWER).
To select a channel directly	Press the 0 – 9 buttons.
To change channels	Press CH +/-.
To record	Press ► and ● simultaneously.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ►►.
To rewind the tape	Press ◀◀.
To pause	Press II. To resume normal playback press again or press ►.
To scan	Press ►► or ◀◀ during playback. To resume normal playback release the button.
To change input mode.	Press TV/VTR.

Tips

- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.
- When you remove the batteries, the code number may revert to the factory setting.
- The code numbers for Sony VCR's are assigned at the factory as follows:

VHS VCR	301 (preset code for the supplied remote control)
8 mm VCR	302
Beta, ED Beta VCRs	303

MDP (Multi Disc Player) code numbers

Manufacturer	Code
Sony	701
Panasonic	704, 710
Pioneer	702

Operating an MDP Buttons on the remote control

To turn on or off	Press VTR/DVD (POWER).
To play	Press ▶ .
To stop	Press ■ .
To pause	Press II . To resume normal playback, press again or press ▶ .
To scan	Press ▶▶ or ◀◀ during playback. To resume normal playback, press ▶ .
To search the chapter forward or backward	Press CH +/-.

Tip

If you will not be programming a DBS or cable box into the DBS/CABLE input, you can use it to program other video equipment (e.g. DVD, MDP, or second VCR). (see page 36)

DVD (Digital Versatile Disc) code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Operating a DVD player Buttons on the remote control

To turn on or off	Press VTR/DVD (POWER).
To play	Press ▶ .
To stop	Press ■ .
To pause	Press II . To resume normal playback, press again or press ▶ .
To scan	Press ▶▶ or ◀◀ during playback. To resume normal playback, press ▶ .
To search the chapter forward or backward	Press CH +/-.
To select chapters directly	0-9 + ENTER.
MENU	Press to display DVD menu.
To move cursor in menu	Use your arrow buttons ▲ , ▼ , ▶ , ◀ .

35

Troubleshooting

Consult the table below; it suggests solutions to specific problems.

Problem	What it could be	What you can do
The TV does not turn on and a red light keeps flashing on the TV for more than a few seconds	• Your TV may need service.	• Call your local Sony service center.
TV makes a noise when turned on	• This is a normal function of your TV.	
Screen is not lit and there is no sound	• Power cord may not be plugged in. • Batteries may not have been placed with the correct polarity. • TV/VIDEO setting may be incorrect.	• Press TV/VIDEO until you receive a channel.
Poor or no picture (screen lit), good sound	• VIDEO menu settings may not be adjusted correctly. • Antenna/cable connections may be faulty. • VIDEO LABEL inputs may be set to WEB. (This label darkens the screen for ideal WebTV viewing)	• Readjust your VIDEO menu settings. (see page 28) • Check your VIDEO LABEL settings. (see page 32)
Good picture, no sound	• Sound may be set to MUTE. • Your TV may be set to SAP. • Speaker may not be set correctly.	• Press MUTE. • Check the MTS setting in the AUDIO menu. (see page 29) • Check your SPEAKER settings. (see page 29)
No color	• Color settings may not be adjusted correctly.	• Adjust the COLOR settings in the VIDEO menu. (see page 28)
Only snow and noise appear on the screen	• CABLE may not be set correctly in the SET UP menu. • Antenna/cable connections may not be correct. • TV may be set to AUX mode.	• Ensure that you have selected the correct CABLE mode in the SET UP menu. (see page 31) • Press ANT on your remote control to change the input mode. (see page 24)
Cannot receive upper channels (UHF) when using an antenna	• CABLE setting may not be correct in the SET UP menu.	• Ensure that CABLE is set to OFF in the SET UP menu. (see page 31) • Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 31)

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Troubleshooting (continued)

Problem	What it could be	What you can do
Cannot receive any channels when using cable	• CABLE setting may not be set correctly in the SET UP menu.	• Ensure that CABLE is set to ON in the SET UP menu. (see page 31) • Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 31)
Cannot gain enough volume when using a cable box	• Volume may not be adjusted on your cable box.	• Press TV (FUNCTION) and adjust the TV's volume.
TV is fixed to one channel	• CHANNEL FIX settings may not be correct.	• Check your CHANNEL FIX settings. (see page 31)
Program information is not available in the Program Grid	• Cable box is not turned ON. • You have entered the wrong Zip Code during SET UP. • IR Blaster is positioned incorrectly. • Your reception could be poor. • PIP must be turned off to allow the GUIDE Plus+ to download program information when the TV is turned on. (see "Setting up the GUIDE Plus+ Feature" on page 13)	• Cable box must be left on at all times. • Position the IR Blaster directly in front of your Cable box's IR receiving area. • If you have connected a cable box to your TV, you must turn off the TV using the TV's remote control. Do not power the TV off using the cable box switch.
Channel numbers within the GUIDE do not correspond to the appropriate channel logos.	• GUIDE Plus+ feature is set incorrectly.	• Perform GUIDE Plus+ SET UP again, ensuring that the appropriate Zip or Postal Code, Cable Setting, and Channel Map are chosen. (see page 13)
Programs scheduled for recording are not recorded.	• IR Blaster is positioned incorrectly. • Your VCR was setup incorrectly. • When VCR and cable box are used together, the VCR must be set to channels 3 or 4, whichever the cable box is set to	• Position the IR Blaster directly in front of your Cable box's IR receiving area. • Reenter the GUIDE Plus+ SET UP screen and enter correct VCR information. (see page 31) • When the recording process begins, the VCR must be turned off.

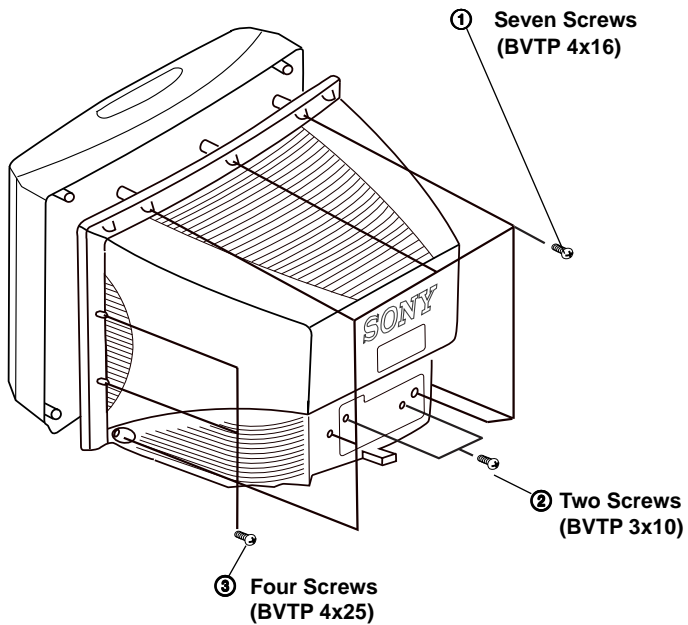
If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (customers in Canada only)

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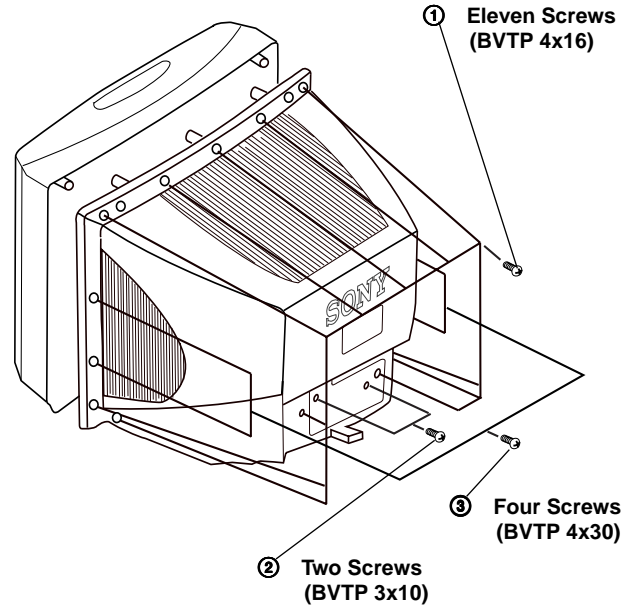
SECTION 2 DISASSEMBLY

2-1. REAR COVER REMOVAL

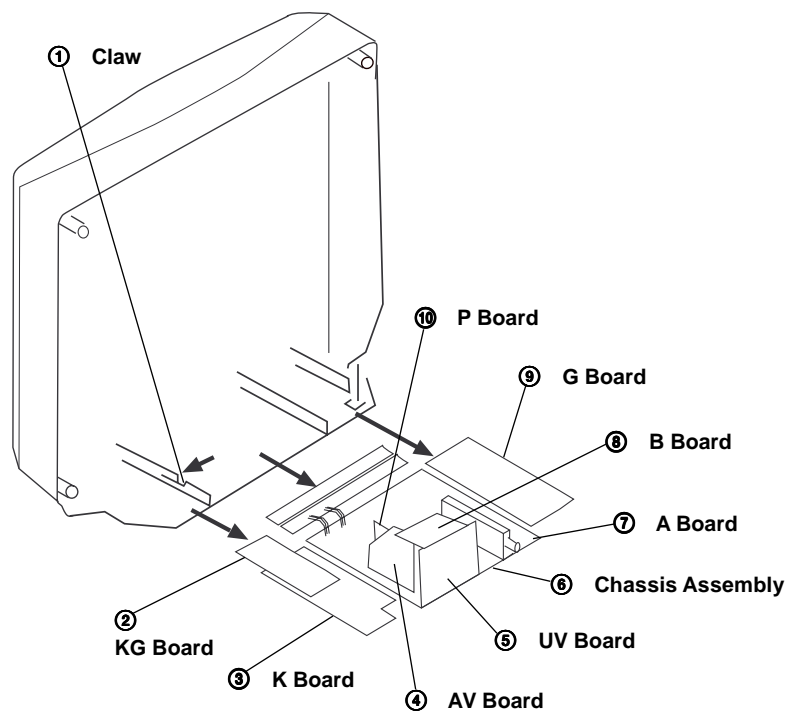
(KV-32V68)



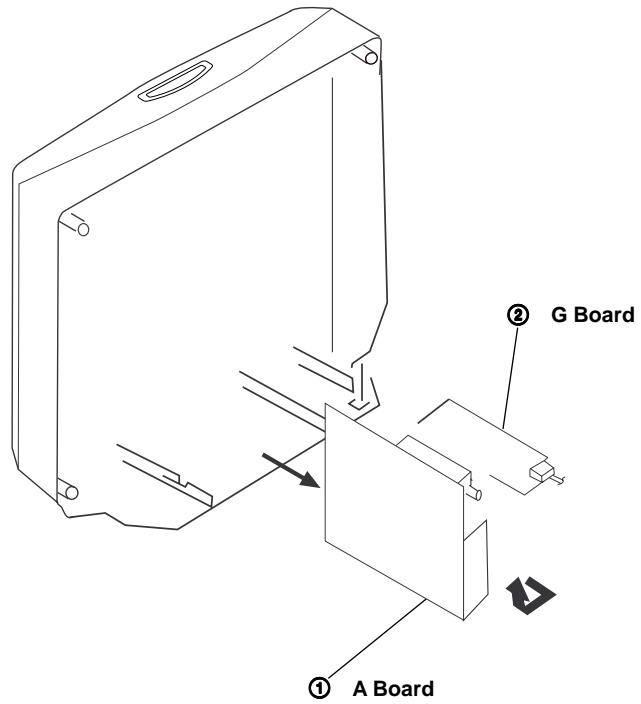
(KV-35V68)



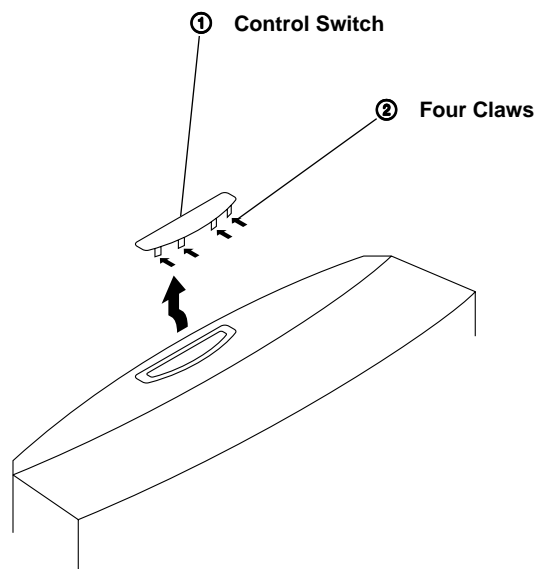
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. SERVICE POSITION



2-4. CONTROL SWITCH REMOVAL

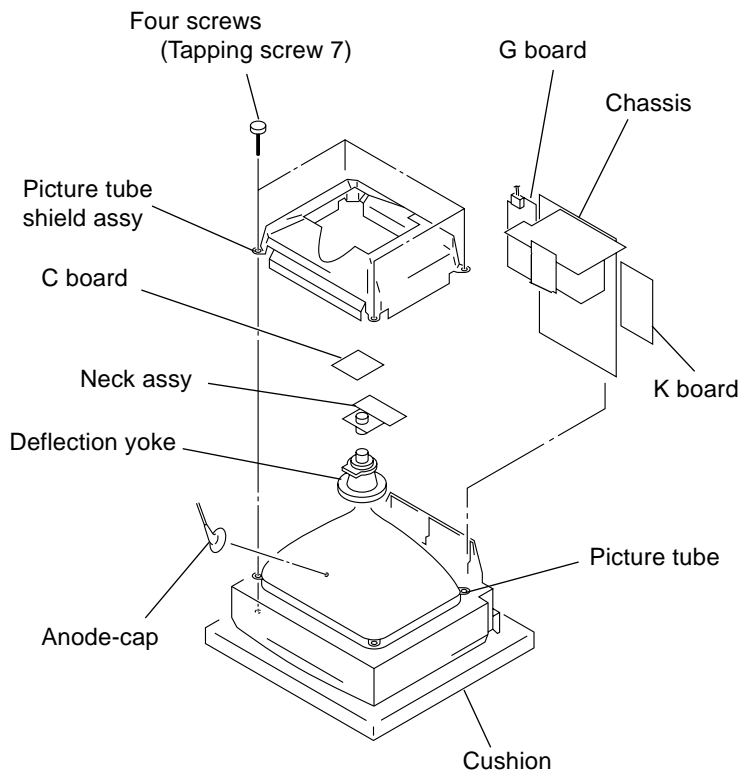
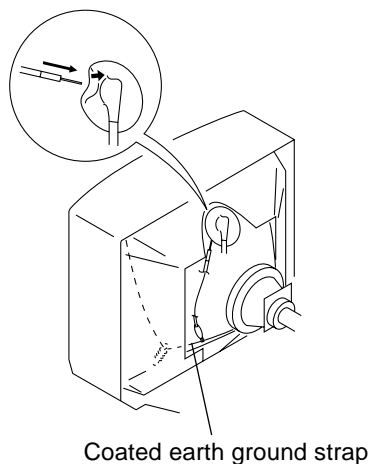


2-5. PICTURE TUBE REMOVAL

WARNING -- Before removing anode-cap:

High voltage remains in the CRT even after the power is disconnected.

To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.

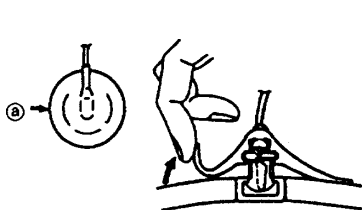


ANODE-CAP REMOVAL

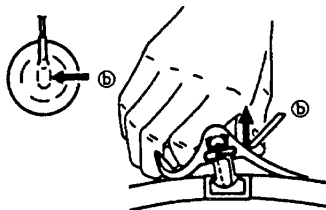
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.

NOTE: After removing the anode, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

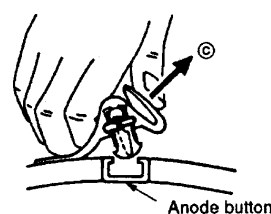
REMOVAL PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow (a).



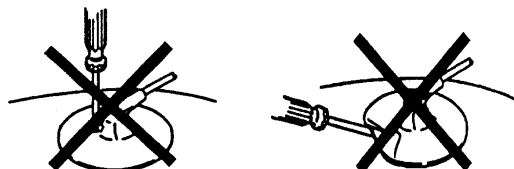
② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b).



③ When one side of the rubber cap separates from the anode button, the anode-cap can be removed by turning the rubber cap and pulling it in the direction of arrow (c).

HOW TO HANDLE AN ANODE-CAP

- ① Do not use sharp objects which may cause damage to the surface of the anode-cap.
- ② Do not squeeze the rubber covering too hard to avoid damaging the anode-cap. A material fitting called a shatter-hook terminal is built into the rubber.
- ③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 3 SET-UP ADJUSTMENTS

KV-32V68/35V68

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

PICTURE control normal

BRIGHTNESS control normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)/White Balance

Note: Test Equipment Required

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

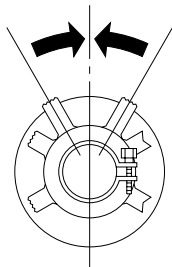
3-1. BEAM LANDING

Preparation:

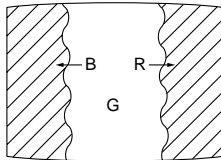
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

NOTE: Do not use the hand degausser because it magnetizes the CRT.

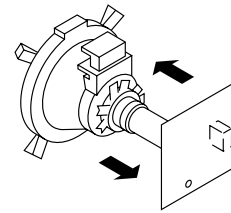
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



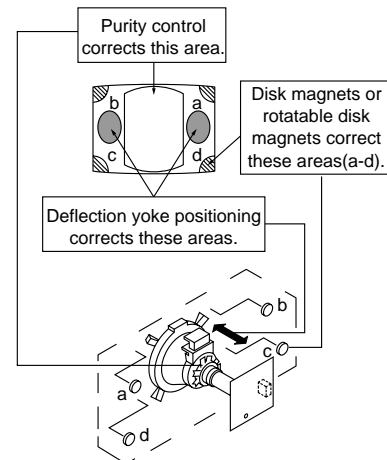
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



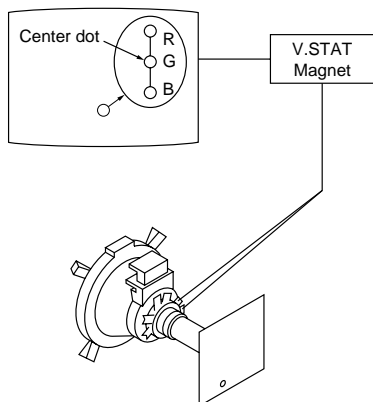
3-2. CONVERGENCE

Preparation:

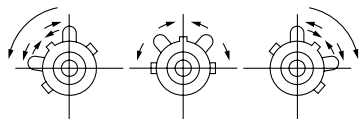
- Before starting, perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.

(1) Vertical and Horizontal Static Convergence

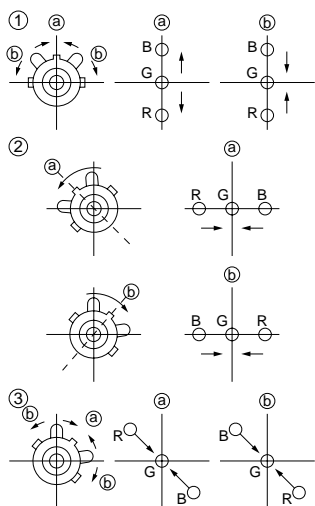
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)



Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



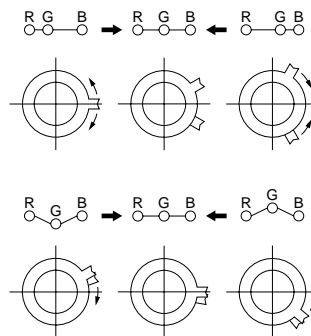
2. When the V. STAT magnet is moved in the direction of arrow (a) and (b), red, green, and blue dots move as shown below:



Operation of BMC (Hexapole) Magnet

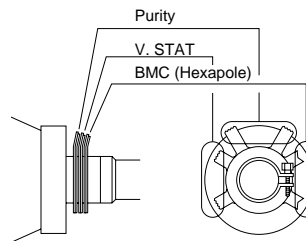
The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

Use the VSTAT tabs to adjust the red, green, and blue dots so they line up at the center of the screen (move the dots in a horizontal direction.)



Y Separation Axis Correction Magnet Adjustment

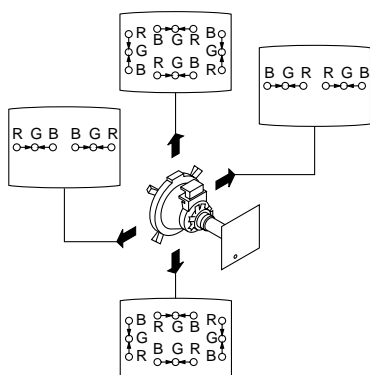
1. Input cross-hatch pattern, adjust PICTURE to minimum and BRIGHTNESS to normal.
2. Adjust the deflection yoke upright so it touches the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical from top to bottom (open state).



4. Return the deflection yoke to its original position.

(2) Dynamic Convergence Adjustment

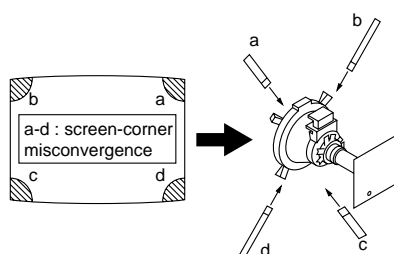
- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- Slightly loosen deflection yoke screw.
 - Remove deflection yoke spacers.
 - Move the deflection yoke for best convergence as shown below:



- Tighten the deflection yoke screw.
- Install the deflection yoke spacers.

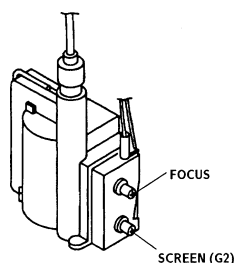
(3) Screen-corner Convergence

Affix a permalloy assembly corresponding to the misconverged areas:



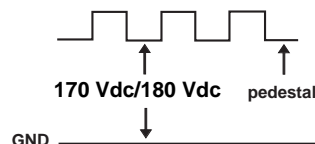
3-3. FOCUS

Adjust FOCUS control for best picture.



3-4. SCREEN (G2)

- Input dot pattern from the pattern generator.
- Set the PICTURE and BRIGHT controls at normal.
- Adjust S BRT, G CUT, B CUT in service mode with an oscilloscope so that voltages on the red, green, and blue cathodes are 170Vdc for 35" and 180Vdc for 32".
- Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.



3-5. WHITE BALANCE ADJUSTMENTS

NO.	Disp.	Item	Avg/32"	Avg/35"
16	GDRV	Green Drive	22	35
17	BDRV	Blue Drive	30	26
18	GCUT	Green Cut-off	5	8
19	BCUT	Blue Cut-off	7	6
25	SBRT	Sub Bright	26	26

- Input an entire white signal.
- Set to Service adjustment Mode.
- Set DCOL to "0"
- Set the PICTURE and BRIGHT to minimum.
- Adjust with SBRT if necessary.
- Select GCUT and BCUT with [1] and [4].
- Adjust with [3] and [6] for the best white balance.
- Set the PICTURE and BRIGHT to maximum.
- Select GDRV and BDRV with [1] and [4].
- Adjust with [3] and [6] for the best white balance.
- Reset DCOL to "1".
- Write into the memory by pressing [MUTING] then [ENTER] **.

SECTION 4 SAFETY RELATED ADJUSTMENTS

R530, R531 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

Always perform the following adjustments when replacing the following components marked with a ■ mark on the schematic diagram:

A BOARD: IC351, IC501, D519, D520, D521, C531, C532, R387, R529, R530, R531, R532, R533, R550, T503

G BOARD: IC643, R661

Step 1 Preparation before Confirmation

Turn the POWER switch ON.

Input a white signal and set the PICTURE and BRIGHT controls to maximum.

Confirm that, when the set is operating normally, the voltage at the check terminal of TP85 is more than:

21.5 V DC (KV-32V68)

18.0 V DC (KV-35V68)

At AC input: 120.0 ± 2.0 VAC

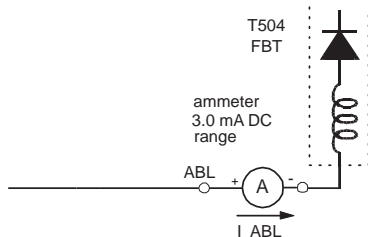
Step 2

Input a white signal and verify that IABL is within the specified range: 2000 ± 100 μ A (KV-32V68),

2160 ± 100 μ A (KV-35V68).

+B = 135.0 ± 1.5 VDC .

At AC input: 120.0 ± 2.0 VAC



Step 3

Record the voltage between TP85 and ground.

Step 4

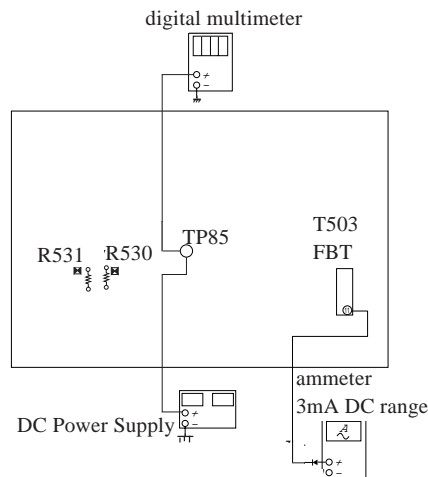
Using an external DC power supply, apply voltage between TP85 and ground.

Increase the voltage gradually and confirm that the holdown works (raster disappears) at lower than the voltage recorded in Step 3.

Lower than $26.95 \pm (-0.05)$ V DC (KV-32V68),

$22.05 \pm (-0.05)$ V DC (KV-35V68).

At AC input: 120.0 ± 2.0 VAC



A BOARD - CONDUCTOR SIDE

Step 5

Confirm that a voltage appears between TP85 and ground, of more than:

21.5 V DC (KV-32V68)

18.0 V DC (KV-35V68)

At AC input: 120.0 ± 2.0 VAC

B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components marked with ■ on the schematic diagram:

G BOARD: IC643, R661

- 1) Using Variac, apply AC input voltage: 120.0 ± 2.0 VAC
- 2) Input a monoscope signal.
- 3) Set the PICTURE control and the BRIGHT control to initial reset value.
- 4) Confirm the voltage of G Board CN641 between pin ① to ground on "G" PWB is less than 130.0 ± 1.0 V DC.
- 5) If step 4 is not satisfied, replace the R661 and repeat the above steps.

SECTION 5 CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use Remote Commander (RM-Y154) to perform the following circuit adjustments:

NOTE : Test Equipment Required:

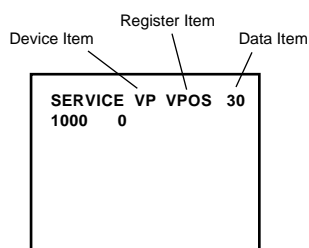
1. Pattern Generator
2. Frequency Counter
3. Digital Multimeter
4. Audio OSC

(1) Method of Setting the Service Adjustment Mode

SERVICE MODE PROCEDURE

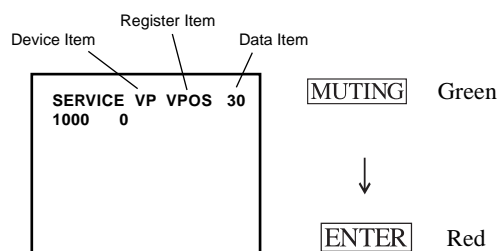
1. Standby mode. (Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander.
(Press each button within a second.)

SERVICE ADJUSTMENT MODE IN



3. The CRT displays the item being adjusted.
4. Press **2** or **5** on the Remote Commander to select the device item.
5. Press **1** or **4** on the Remote Commander to select the item.
6. Press **3** or **6** on the Remote Commander to change the data.
7. If you want to recover the latest values press **0** then **ENTER** to read the memory.
8. Press **MUTING** then **ENTER** to write into memory**.

SERVICE ADJUSTMENT MODE MEMORY



9. Press **8** then **ENTER** on the Remote Commander to reset.

SERVICE	WRITE
1000	0000

Carry out step 9) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

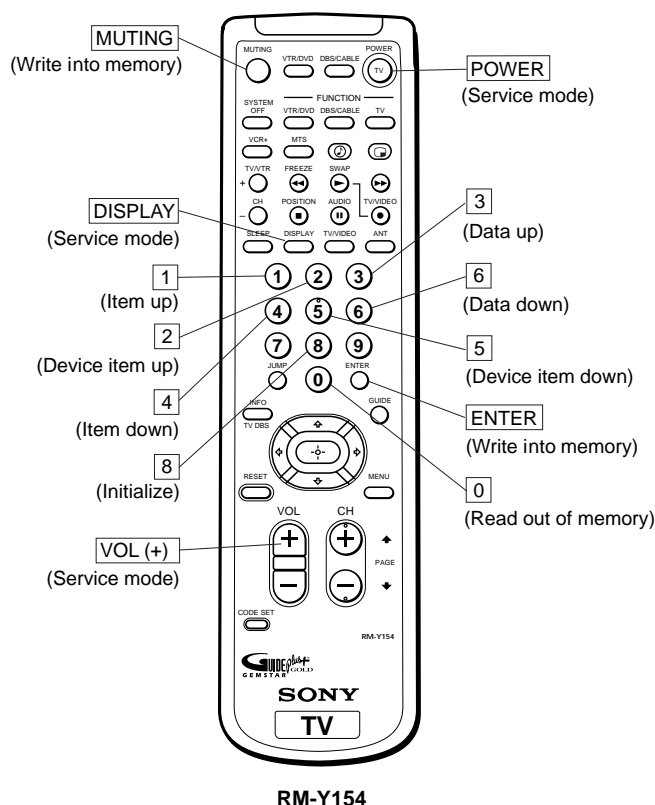
Factory original setting

10. Turn set off and on to exit.

(2) Memory Write Confirmation Method

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm they were adjusted.

(3) Adjust Buttons and Indicator



****WARNING:** Do NOT turn off the power or AC immediately after pressing **MUTING** then **ENTER**. Wait at least 10 seconds.

(4) Service Data

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**		Comments
						32"	35"	
						A	B	
VP CXA2095S								
1	VPOS	V-Position	0-63	Adj	20	23	33	0:Down, 63:Up
2	VSIZ	V-Size	0-63	Adj	20	27	52	0:Min, 63:Max
3	VCOM	V-Compensation	0-3	Fix	1	1		0:Min, 3:Max
4	VLIN	V-Linearity	0-15	Adj	7	9		0:Min, 15:Max
5	VSCO	S-Correction	0-15	Adj	7	6	9	0:Min, 15:Max
6	HPOS	H-Position	0-15	Adj	7	11	10	0:Right, 15:Left
7	HSIZ	H-Size	0-63	Adj	20	23	39	0:Min, 63:Max
8	PAMP	Pin Compensation	0-63	Adj	31	27	19	0:Min, 63:Max
9	UPIN	Upper Corner Pin	0-15	Adj	7	4	7	0:Min, 15:Max
10	LPIN	Lower Corner Pin	0-15	Adj	7	6	10	0:Min, 15:Max
11	PPHA	Pin Phase	0-15	Adj	7	4	5	0:Min(small picture), 15:Max
12	AFC	AFC	0-3	Fix	2	2		0:Freerun, 1:Min, 3:Max
13	VBOW	AFC Bow	0-15	Adj	7	6	5	0:Right, 15:Left
14	VANG	AFC Angle	0-15	Adj	7	6	4	0:Right, 15:Left
15	REF	Reference Line	0-3	Fix	2	2		0:22H(Rch), 3:16H(Rch)
16	GDRV	Green Drive	0-63	Adj	31	22	35	0:Min, 63:Max
17	BDRV	Blue Drive	0-63	Adj	31	30	26	0:Min, 63:Max
18	GCUT	Green Cutoff	0-15	Adj	7	5	8	0:Min, 15:Max
19	BCUT	Blue Cutoff	0-15	Adj	7	7	6	0:Min, 15:Max
20	SCON	Sub Contrast	0-15	Adj	7	10	8	0:Min, 15:Max
21	SHUE	Sub Hue (RF only)	0-15	Adj	7	7 (flat-1)		0:+10deg, 15:-10deg (adjust flat - 1 step)
22	1SHU	Sub Hue (composite & S-video)	0-15	Adj	7	7		0:+10deg, 15:-10deg (same as SHUE adj. value)
23	SCOL	Sub Color (RF only)	0-15	Adj	7	11 (flat+2)		0:Min, 15:Max (adjust flat + 2 steps)
24	1SCO	Sub Color (composite & S-video)	0-15	Adj	7	9		0:Min, 15:Max
25	SBRT	Sub Brightness	0-63	Adj	31	26		0:Min, 63:Max
26	SSHP	Sub Sharpness (RF & Composite video)	0-15	Fix by model	7	10		0:Min, 15:Max
27	1SSP	Sub Sharpness (S-video only)	0-15	Fix by model	7	10		0:Min, 15:Max
28	GMMA	Gamma Correction	0-3	Fix by model	1	0		0:Off, 1:Min, 3:Max
29	CDM2	Countdown Mode 2	0-1	Fix	0	0		0: Normal 1: High Speed Countdown Response
30	EYSW	External Y Switch	0-1	Fix	0	0		0: Normal 1: EYin disabled
31	DPIX	Dynamic Picture	0,1	Fix	1	1		0:Off, 1:On
32	Y-DC	DC Transmission Ratio	0,1	Fix	1	1		0:100%, 1:82%
33	ABLM	ABL Mode	0,1	Fix	1	1		0:PictureABL, 1:Picture/BrightnessABL
34	AXIS	Color Demodulation Axis	0,1	Fix	1	0		0:Japan, 1:US
35	NOTC	Chroma Trap Filter	0,1	Fix	0	0		0:Off, 1:On
36	CROM	Chroma Trap Adjust	0-15	Fix	7	7		0:+300kHz, 1:-300kHz
37	TOT	TOT Filter (RF only)	0,1	Fix	1	1		0:Off, 1:On
38	1TOT	TOT Filter (Composite & S-video)	0,1	Fix	1	0		0:Off, 1:On
39	PREL	Pre/Overshoot Ratio (RF & Composite)	0-3	Fix by model	3	1		0: 2:1, 3: 5:1
40	1PRE	Pre/Overshoot Ratio (S-video only)	0-3	Fix by model	3	3		0: 2:1, 3: 5:1
41	SHPF	Sharpness fo (RF & Composite)	0-3	Fix by model	2	1		0:2.5MHz, 3:4.0MHz
42	1SPF	Sharpness fo (S-video only)	0-3	Fix by model	2	3		0:2.5MHz, 3:4.0MHz
43	RON	Red Off	0,1	Fix	1	1		0:Off, 1:On
44	GON	Green Off	0,1	Fix	1	1		0:Off, 1:On
45	BON	Blue Off	0,1	Fix	1	1		0:Off, 1:On
46	DCOL	Dynamic Color	0,1	Fix	0	1		0:Off, 1:On
47	CDMD	V Countdown Mode	0,1	Fix	0	0		0:Auto, 1:Fix
48	HBSW	H Blanking Switch	0,1	Fix	0	0		0:Off, 1:On
49	LBLK	Left Blanking	0-15	Fix	0	7		0:Min, 15:Max
50	RBLK	Right Blanking	0-15	Fix	0	7		0:Min, 15:Max
AP CXA2021								
51	SVOL	Sub Volume	0-15	Fix	0	6		0:-0 Volume steps, 15:-15 Volume steps
52	SBAL	Sub Balance	0-15	Adj	7	7		0: +Right, 15:+Left
53	SBAS	Sub Bass	0-15	Fix by model	7	10		0:-7 Steps, 15: +8 steps
54	STRE	Sub Treble	0-15	Fix by model	7	7		0:-7 Steps, 15: +8 steps
AP MM1313								
55	AUSW	Audio Att Sw	0,1	Fix	1	1		0:-6dB, 1:0dB (Only for VIDEO input)

**AVERAGE DATA MODEL GROUPINGS:

32" A: KV-32V68

35" B: KV-35V68

Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**		Comments
						32"	35"	
						A	B	
PI SDA9288								
56	PYSD	Select Delay	0-15	Fix by P-bd	3	3	0:Right, 15:Left	
57	PIPH	PIP H-position	0-127	Fix	78	78	0:Right, 127:Left	
58	PIPV	PIP V-position	0-63	Fix	18	18	0:Up, 63:Down	
59	PYDL	PIP Y-delay	0-7	Fix	0	0	0:Right, 7:Left	
60	PHDL	H-pulse delay	0-15	Fix by P-bd	3	0	0:Right, 15:Left	
61	PMVD	Main V-pulse delay	0-31	Fix	16	16	7-21: Available (1-6/22-31 Not Avail)	
62	PIVD	Inset V-pulse delay	0-31	Fix	22	22	16-28 Available (1-15/29-31 Not Avail)	
63	PCON	Inset Contrast	0-15	Fix	7	6	0:Min, 15:Max	
64	FRMY	Frame Y	0-15	Fix	7	7	0:Dark, 15:Bright	
65	CHRI	Input Polarity	0,1	Fix by P-bd	1	1	0:+(B-Y)+(R-Y), 1:-(B-Y)-(R-Y)	
66	CHRO	Output Polarity	0,1	Fix	1	1	0:+(B-Y)+(R-Y), 1:-(B-Y)-(R-Y)	
67	IPER	Inset Pedestal R-Y	0-15	Fix	0	0	0:Center, 7:Max, 8:Min	
68	IPEB	Inset Pedestal B-Y	0-15	Fix	0	0	0:Center, 7:Max, 8:Min	
69	PCPS	CLPS Bit Control	0,1	Fix	0	0	0:Depend on HSIDEL, 1:Not depend	
70	PCPF	CLPFIX Bit Control	0,1	Fix	0	0	0: 3Clamp line, 1: 2Clamp line	
71	PSEL	SELDOWN Bit Control	0,1	Fix by P-bd	1	1	0:Open out, 1:TTL out	
72	PPLL	PLL Filter Bits	0-3	Fix	0	0	Fixed value only	
73	PVNR	VSPISQ VSP NR	0-1	Fix	0	1	SDA9288 IC bypass use 1	
IC CXA2019								
74	ISCO	CDec Sub Contrast	0-15	Fix	7	15	PiP sub contrast	
75	ISHP	CDec Sharpness	0-15	Fix	7	8	PiP sharpness	
76	ISCL	CDec Sub Color	0-15	Fix	7	9	PiP sub color	
77	ISHU	CDec Sub Hue	0-15	Fix	7	6	PiP sub hue	
78	ITOT	CDec TOT on	0,1	Fix	0	1	PiP TOT 0:Off, 1:On	
79	IAFC	CDec AFC	0-3	Fix	2	2	0:Max, 2:Min, 3:Freerun	
80	ICD2	CDec Countdown Mode2	0,1	Fix	0	0	0:Standard, 1:Fast	
81	IYDR	CDec Y drive	0-31	Fix	15	7	PiP Y-drive gain	
82	IYPE	CDec V pedestal	0-15	Fix	7	6	PiP V-ped DC	
83	IUPE	CDec U pedestal	0-15	Fix	7	6	PiP U-ped DC	
84	IRVP	CDec RV pedestal	0-15	Fix	7	6	PiP V-ped DC (re-input)	
85	IRUP	CDec RU pedestal	0-15	Fix	7	6	PiP U-ped DC (re-input)	
86	IDCT	CDec DC transfer	0-7	Fix	2	0	PiP DC transfer 0:Max, 7:Min	
87	IRYD	CDec RY drive	0-31	Fix	15	20	PiP RY Drive (re-input)	
88	IABO	CDec ABL off	0,1	Fix	1	1	PiP ABL (RY-OUT) 0:On, 1:Off	
89	IPRE	CDec Pre/Over shoot	0-3	Fix	3	3	PiP Pre/over shoot 0: 1:1, 1: 4:1	
90	IRUD	CDec RU Drive	0-31	Fix	15	20	PiP RU-gain out 0:-6dB, 31:+3.3bD	
91	IABL	CDec ABL	0,1	Fix	1	1	PiP ABL gain 0:Std, 1:Min	
92	IABC	CDec ABL Cent	0-3	Fix	1	1	PiP ABL Center 0:Min, 1:Max	
93	IRVD	CDec RV drive	0-31	Fix	15	17	PiP RY Drive (re-input)	
94	IDLY	CDec Delay	0-3	Fix	0	0	PiP Y-delay 0:0ns, 1:60ns, 2:120ns, 3:180ns	
95	ISCR	CDec SCP BGR	0-3	Fix	0	0	PiP SCP riseup phase 0:+0.4us, 1:cent, 2:-0.8us	
96	ISCF	CDec SCP BGF	0-3	Fix	0	0	PiP SCP falldown phase 0:+0.4us, 1:cent, 2:-0.8us	
CC CXP8584a-011s								
97	CRIL	CC CRI count low	0-15	Fix	2	2	7 Clock Run-In Lower Limit (field 1)	
98	CFLD	CC Caption Fixed Field Count	0-15	Fix	5	5	Fixed value only	
99	CCDI	CC CCD int	0-7	Fix	3	3	Fixed value only	
100	CRIP	CC CRI & polarity	0-7	Fix	4	4	Fixed value only	
101	CRIT	CC CRI time constant	0-3	Fix	1	1	Fixed value only	
102	CSB1	CC Sync Slice Bias 1	0-3	Fix	3	3	Fixed value only	
103	CSB2	CC Synce Slice Bias 2	0-7	Fix	4	4	Fixed value only	
104	CREP	CC CRI signal end position	0-255	Fix	142	142	Fixed value only	
105	CDS	CC Data start delay	0-31	Fix	8	8	Fixed value only	
106	CCDS	CC Caption data threshold	0-31	Fix	9	9	Fixed value only	
107	CHMK	CC P8_HMASK	0-63	Fix	42	42	Hmask	
108	CHSY	CC P8_HSYC	0-255	Fix	136	136	Hsvc	

**AVERAGE DATA MODEL GROUPINGS:

32" A: KV-32V68

35" B: KV-35V68

Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**		Comments
						32"	35"	
						A	B	
OP CXP85848A								
109	DISP	TV OSD H Position	0-63	Adj	1	23	0:Off, 1:Left, 63: Right	
110	RTCO	Rotation Coil	0-63	Fix	32	32	Fixed value only	
111	GPHP	Gemstar PiP H Position	0-127	Adj	78	75	Gemstar Micro only (-012)	
112	GPVP	Gemstar PiP V Position	0-63	Adj	13	13	Gemstar Micro only (-012)	
113	GHPO	Gemstar OSD H Position	0-31	Adj	18	17	Gemstar Micro only (-012)	
114	GVPO	Gemstar OSD V Position	0-32	Adj	12	12	Gemstar Micro only (-012)	
115	GHSZ	Gemstar OSD H Size	16-143	Adj	102	101	Gemstar Micro only (-012)	
116	GVSZ	Gemstar OSD V Size	175-255	Adj	202	175	Gemstar Micro only (-012)	
ID MAP								
117	ID-0	ID-0 (Language/Color Systems)	0-255	Fix by model	89	refer to NVM ID Chart		See ID map
118	ID-1	ID-1 (Input/Output Configuration)	0-255	Fix by model	55			See ID map
119	ID-2	ID-2 (Audio)	0-255	Fix by model	175			See ID map
120	ID-3	ID-3 (OSD/Timer/V-chip/Ch Fix)	0-255	Fix by model	0			See ID map
121	ID-4	ID-4 (CC/Spot Killer/etc)	0-255	Fix by model	155			See ID map
122	ID-5	ID-5 (V-series Features/etc)	0-255	Fix by model	141			See ID map
123	ID-6	ID-6 (PiP/Ant Sw related)	0-255	Fix by model	6			See ID map
124	ID-7	ID-7 (Special Models/etc)	0-255	Fix by model	0			See ID map

**AVERAGE DATA MODEL GROUPINGS:

32" A: KV-32V68	
35" B: KV-35V68	

SERVICE	IDO	25
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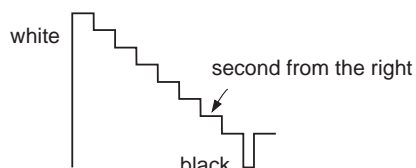
Note: Items 1-124 show adjustment order

(5) Feature ID Map

	ID 0	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	ID 7
KV-32V68	89	55	175	10	27	141	6	0
KV-35V68	89	55	175	10	155	141	6	0

SUB BRIGHT ADJUSTMENT (SBRT)

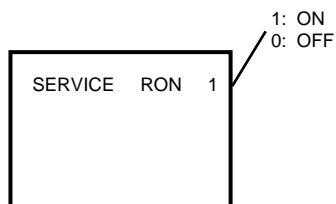
1. Set to Service adjustment Mode.
2. Input a gray scale pattern signal.
3. Set the PICTURE to minimum, and BRIGHT to normal.
4. Select SBRT with **[1]** and **[4]**.
5. Adjust SUB BRIGHT level with **[3]** and **[6]** so that the stripe second from the right is faintly visible.
6. Write into the memory by pressing **[MUTING]** then **[ENTER]****.

**SUB CONTRAST ADJUSTMENT (SCON)**

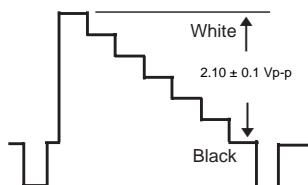
1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select the item DCOL to "0" level.
4. Set the conditions as follows.

PICTURE MAX
 COLOR MIN
 BRIGHT CENTER

R ON ON (1)
 G ON OFF (0)
 B ON OFF (0)



5. Connect an oscilloscope probe to C Board, CN1761 pin ① (RED OUT).
6. Select SCON with **[1]** and **[4]**.
7. Adjust with **[3]** and **[6]** for: 2.10 ± 0.01 Vp-p.



8. Reset the item DCOL to "1" level.
9. Write into memory by pressing **[MUTING]** then **[ENTER]****.

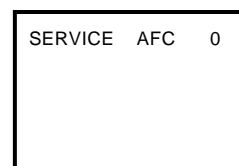
10. Return the following back to normal after adjustment.

PICTURE MAX
 COLOR CENTER
 BRIGHT CENTER

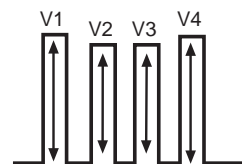
R ON ON (1)
 G ON ON (1)
 B ON ON (1)

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select DISP with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for adjustment of characters to center.
5. Write into memory by pressing **[MUTING]** then **[ENTER]****.

**SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)**

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect oscilloscope probe to C Board, CN1761 Pin ③ (BLUE OUT).
4. Select SHUE and SCOL with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the $V1 = V4 \pm 0.1$ Vp-p (SCOL) and $V2 = V3 \pm 0.1$ Vp-p (SHUE).



6. Change data according to the following table:

	SCOL	SHUE
32"/35"	+2 steps	-1 steps

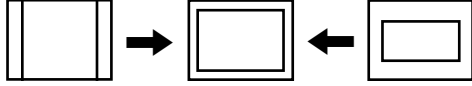
7. Write into the memory by pressing **[MUTING]** then **[ENTER]****.

****WARNING:** Do NOT turn off the power or AC immediately after pressing **[MUTING]** then **[ENTER]**. Wait at least 10 seconds.

V. SIZE ADJUSTMENT (VSIZ)

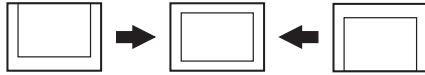
1. Input a cross-hatch signal.
2. Set to Service adjustment mode.
3. Select VSIZ with [1] and [4].
4. Adjust with [3] and [6] for the best vertical size.
5. Write into the memory by pressing [MUTING] then [ENTER]**.

V. SIZE

**V. POSITION ADJUSTMENT (VPOS)**

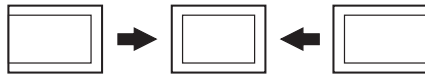
1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VPOS with [1] and [4].
4. Adjust with [3] and [6] for the best vertical center.
5. Write into the memory by pressing [MUTING] then [ENTER]**.

V. POSITION

**H. POSITION ADJUSTMENT (HPOS)**

1. Input a cross-hatch signal.
2. Set the Service adjustment Mode.
3. Select HPOS with [1] and [4].
4. Adjust with [3] and [6] for the best horizontal center.
5. Write into the memory by pressing [MUTING] then [ENTER]**.

H. POSITION

**V LINEARITY (VLIN), V CORRECTION (VSCO), PIN AMP (PAMP) AND PIN PHASE (PPHA) ADJUSTMENTS**

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, and PPHA with [1] and [4].
4. Adjust with [3] and [6] for the best picture.
5. Write the memory by Pressing [MUTING] then [ENTER]**.

V LINEARITY (VLIN)



VS CORRECTION (VSCO)



PIN AMP (PAMP)

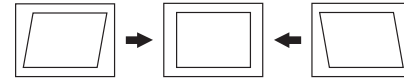


PIN PHASE (PPHA)

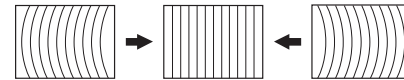
**V ANGLE (VANG), V BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS**

1. Input a cross hatch signal.
2. Set to Service adjustment Mode.
3. Select VVANG, VBOW, UPIN, and LPIN with [1] and [4].
4. Adjust with [3] and [6] for the best picture.
5. Write into memory by Pressing [MUTING] then [ENTER]**.

V ANGLE (VANG)



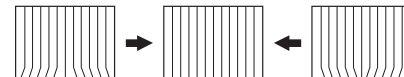
V BOW (VBOW)



UPPER PIN (UPIN)



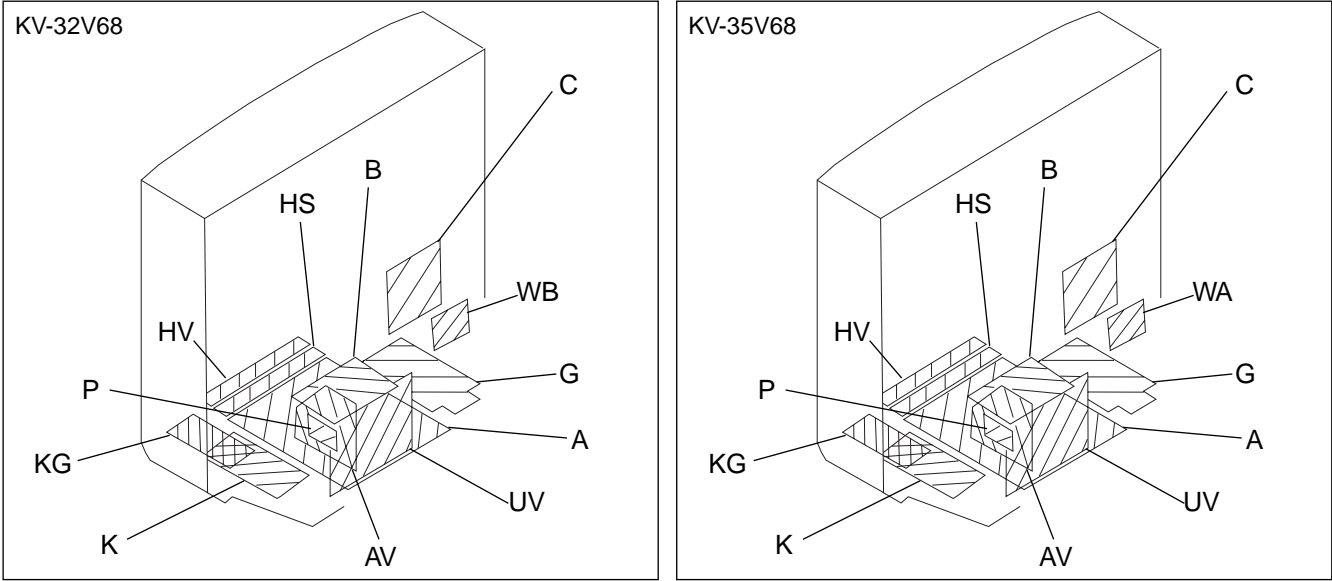
LOW PIN (LPIN)

**P BOARD ADJUSTMENTS****PIP V, POSITION (PIPV), PIP H. POSITION (PIPH)**

1. Input a color-bar signal.
2. Set to service adjustment mode.
3. Select PIPV or PIPH with [1] and [4].
4. Adjust with [3] and [6] for the best balanced position at four corner P in P display position.
5. Adjust P in P put at lower right position.
6. Write the memory by Pressing [MUTING] then [ENTER]**.

**WARNING: Do NOT turn off the power or AC immediately after pressing [MUTING] then [ENTER]. Wait at least 10 seconds.

6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
 $\text{K} = 1000$, $\text{M} = 1000\text{k}$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : $\frac{1}{4}\text{ W}$

- $\frac{1}{4}\text{ W}$ in resistance, $\frac{1}{10}\text{ W}$ and $\frac{1}{8}\text{ W}$ in chip resistance.
- : nonflammable resistor.
- : fusible resistor.
- \triangle : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R530 and R531 adjustment on Page 20.)
- When replacing the part in below table, be sure to perform the related adjustment.
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10M digital multimeter .
- Voltages are DC with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.

- All voltages are in V.
- S : Measurement impossibility.
- : B+line.
- : B-line.
(Actual measured value may be different).
- : signal path. (RF)
- Circled numbers are waveform references.

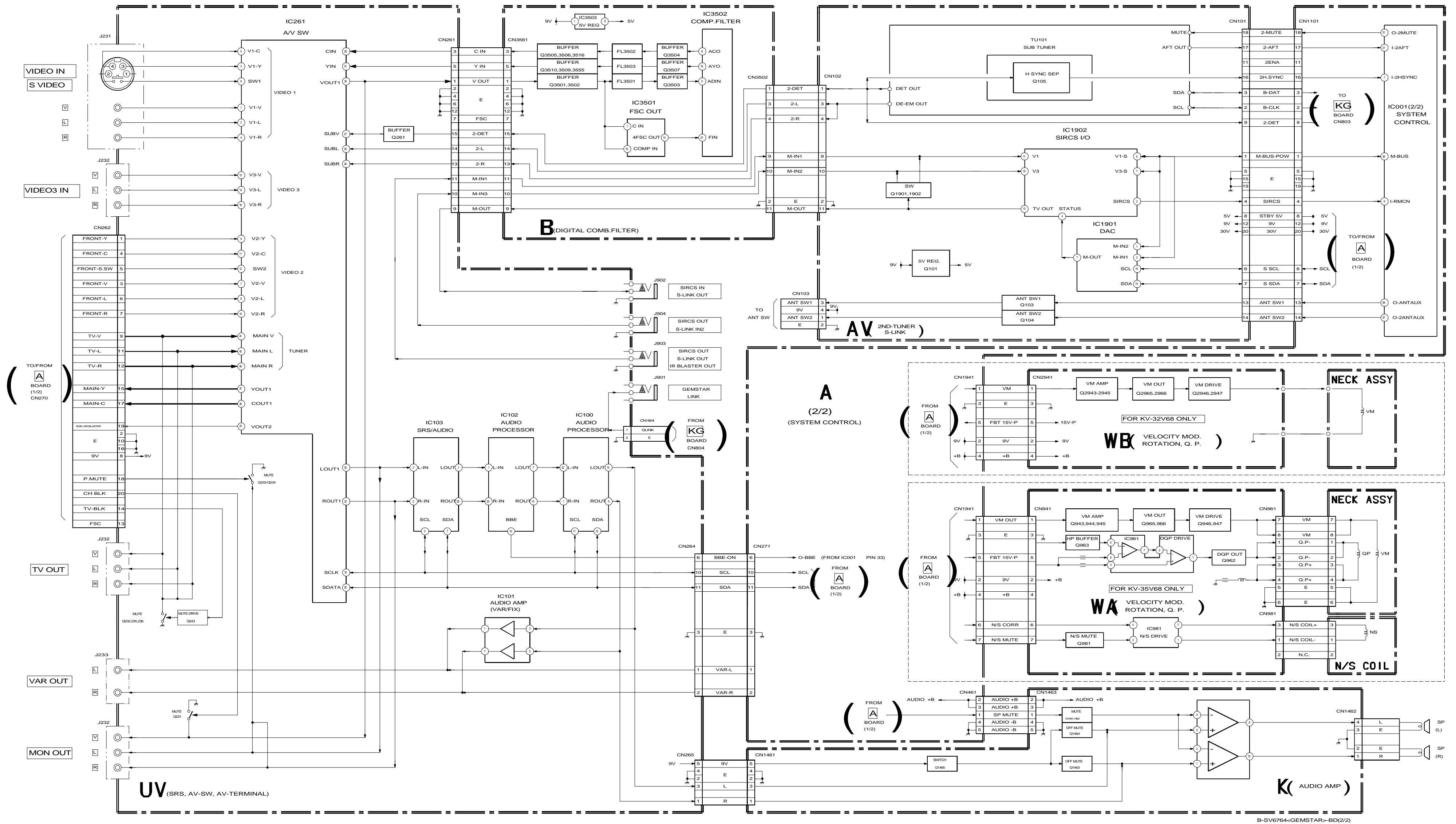
Reference information		
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	:	ADJUSTMENT RESISTOR
	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

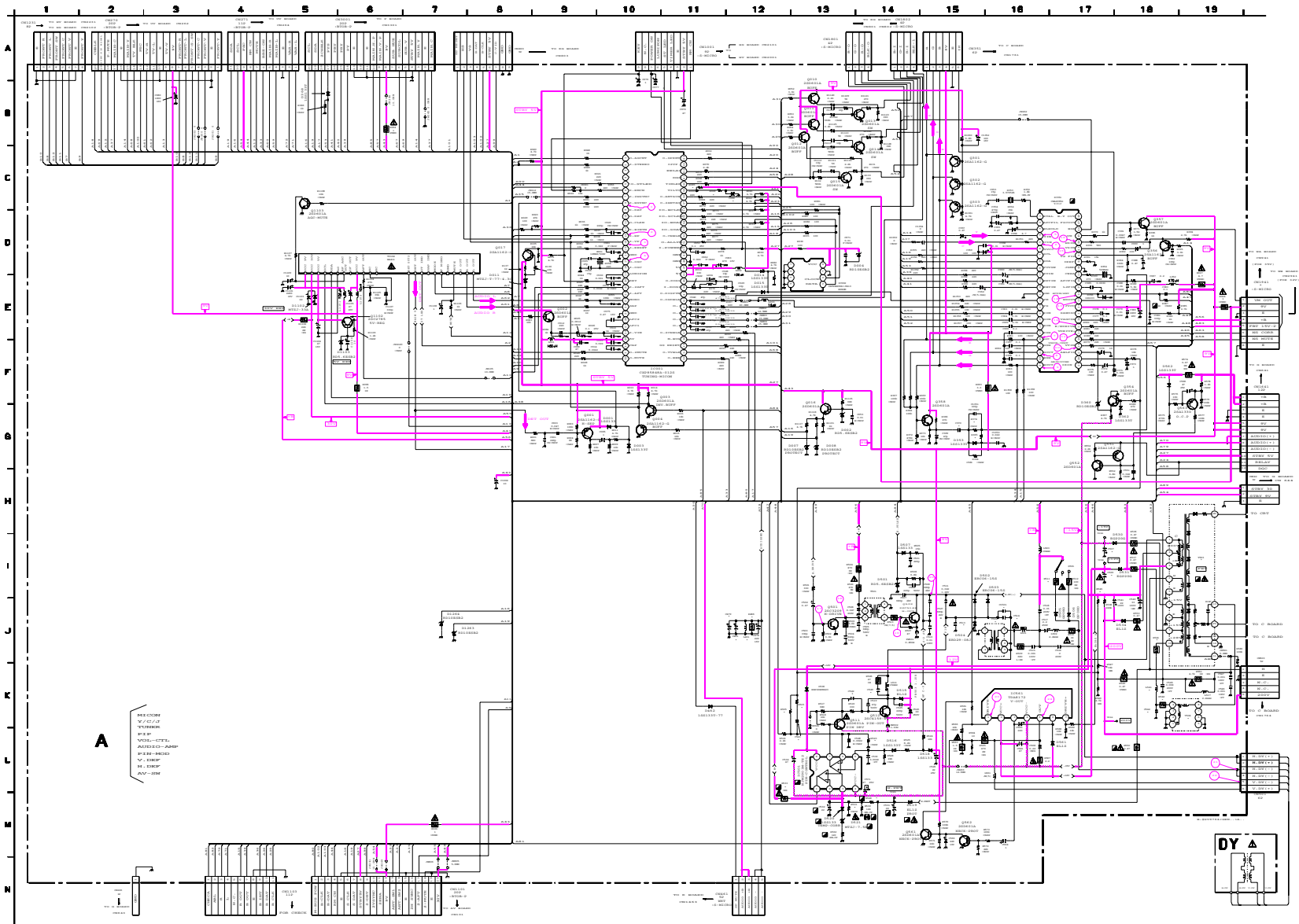
The symbol display is on the component side.
The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.
The symbol indicates a fast operating fuse.
Replace only with fuse of same rating as marked.

Part replaced()	Adjustment()
IC351,IC501,D519,D520,D521 C531,C532,R387,R529,R530,R531, R532,R533,R550,T503.....A BOARD IC643,R661.....G BOARD	R530,R531

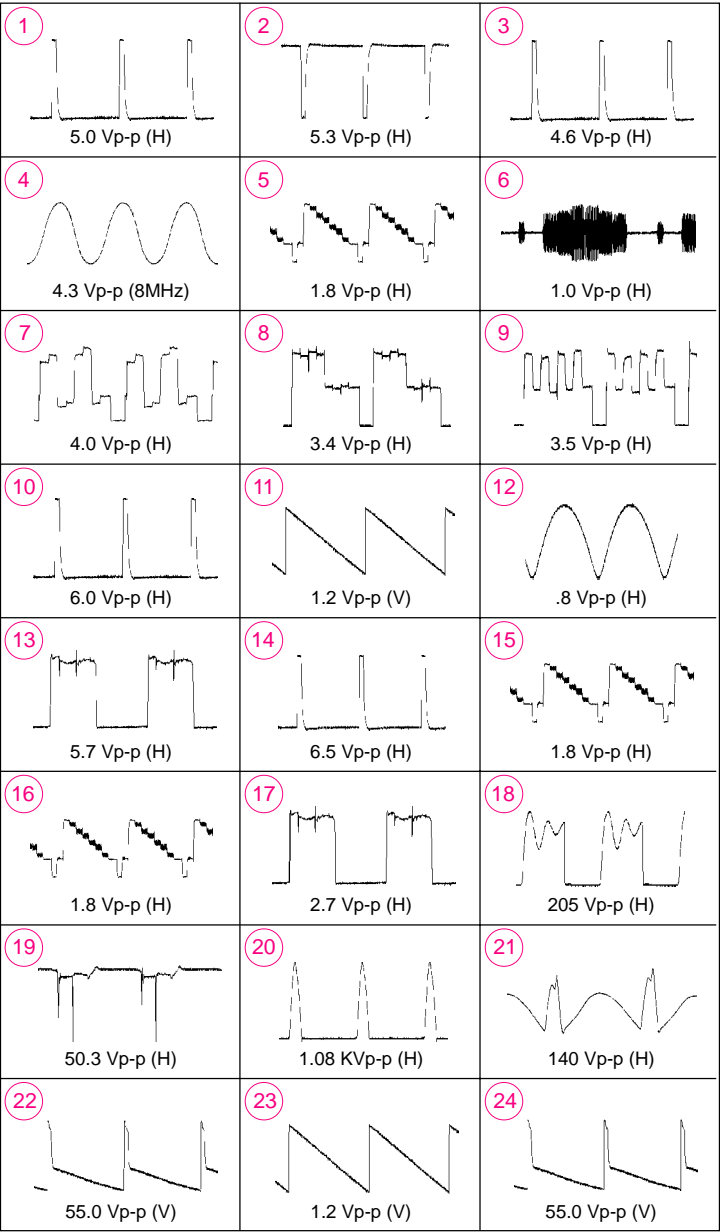
Les composants identifiés per un tramé et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
Le symbole indique une fusible a action rapide. Doit etre remplacée par une fusible de meme yaleur, comme maque.





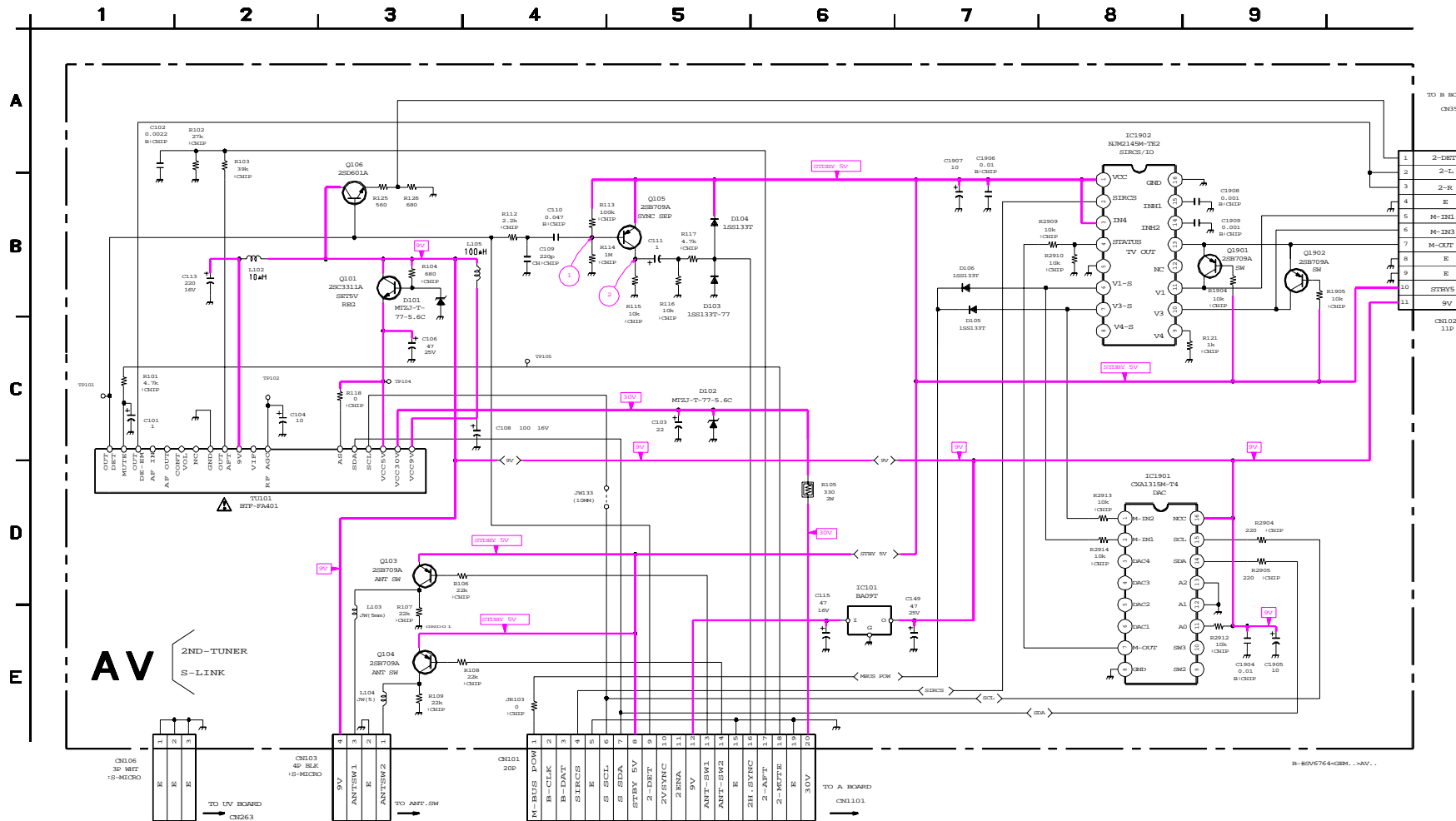


A BOARD WAVEFORMS



A BOARD IC VOLTAGE LIST

IC001		25	GND	51	0	IC351		23	5.1			47	NC
pin	volt	26	1.9	52	0	pin	volt	24	1.8			48	NC
1	0	27	2.7	53	4.8	1	2.2	25	3.9	IC501			
2	5.2	28	2.5	54	4.8	2	5.7	26	2.5	pin			volt
3	NC	29	5.2	55	4.8	3	4.1	27	8.0	1			3.5
4	NC	30	0	56	4.8	4	4.6	28	0.6	2			7.7
5	5.2	31	0	57	5.2	5	4.0	29	3.0	3			8.2
6	5.1	32	0	58	0	6	9.1	30	3.1	4			-16.1
7	0.08	33	0	59	0.1	7	4.9	31	3.7	5			2.2
8	0.07	34	0	60	3.7	8	4.8	32	4.2	6			3.0
9	NC	35	5.2	61	0	9	0.1	33	4.7	7			-15.9
10	NC	36	0.1	62	5.0	10	6.6	34	9.1	8			13.0
11	NC	37	0	63	NC	11	6.3	35	3.3	IC561			
12	5.2	38	0	64	5.0	12	6.3	36	3.5	pin			volt
13	4.2	39	0	IC002		13	GND	37	4.0	1			1.5
14	1.2	40	0	pin	volt	14	0	38	4.3	2			11.8
15	5.2	41	0	1	GND	15	0	39	2.4	3			-14.0
16	GND	42	0	2	GND	16	5.1	40	0	4			-16.2
17	2.4	43	0	3	GND	17	5.1	41	2.7	5			-0.7
18	2.4	44	2.9	4	GND	18	5.1	42	2.7	6			12.8
19	0	45	3.0	5	4.8	19	4.8	43	4.2	7			1.5
20	5.2	46	5.2	6	4.9	20	1.9	44	3.4	All voltages are in V			
21	2.1	47	5.2	7	GND	21	5.0	45	6.3				
22	2.4	48	GND	8	5.2	22	1.8	46	0.3				
23	0	49	GND										
24	0	50	5.2										



AV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q101	4.8	8.7	4.1
Q103	4.2	4.8	4.9
Q104	5.1	0	4.8
Q105	5.1	0.8	4.8
Q106	4.8	8.7	4.7
Q1901	4.8	0	0
Q1902	5.2	0	0

All voltages are in V

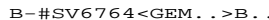
AV BOARD IC VOLTAGE LIST

IC101		IC1902	
pin	volt	pin	volt
OUT	8.9	1	5.2
GND	GND	2	5.1
IN	11.0	3	5.1
IC1901		4	0.1
pin	volt	5	GND
1	0	6	0
2	0	7	0
3	NC	8	NC.
4	NC	9	0
5	NC	10	0
6	NC	11	0
7	0.3	12	NC.
8	GND	13	0
9	NC	14	0.3
10	NC	15	0.3
11	8.9	16	GND
12	GND	All voltages are in V	
13	GND		
14	4.8		
15	4.8		
16	8.9		

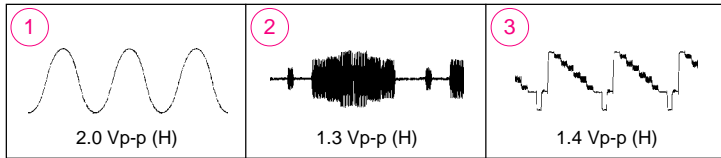
AV BOARD IC VOLTAGE LIST

IC1902	
pin	volt
1	4.9
2	4.6
3	-0.1
4	0.0
5	GND
6	0.0
7	0.0
8	NC
9	0.0
10	0.0
11	0.0
12	NC
13	0.0
14	0.5
15	0.5
16	GND
IC1901	
pin	volt
1	0.0
2	0.0
3	NC
4	NC
5	NC
6	NC
7	0.4
8	GND
9	NC
10	NC
11	8.6
12	GND
13	GND
14	0.0
15	0.0
16	8.6

All voltages are in V



B BOARD WAVEFORMS

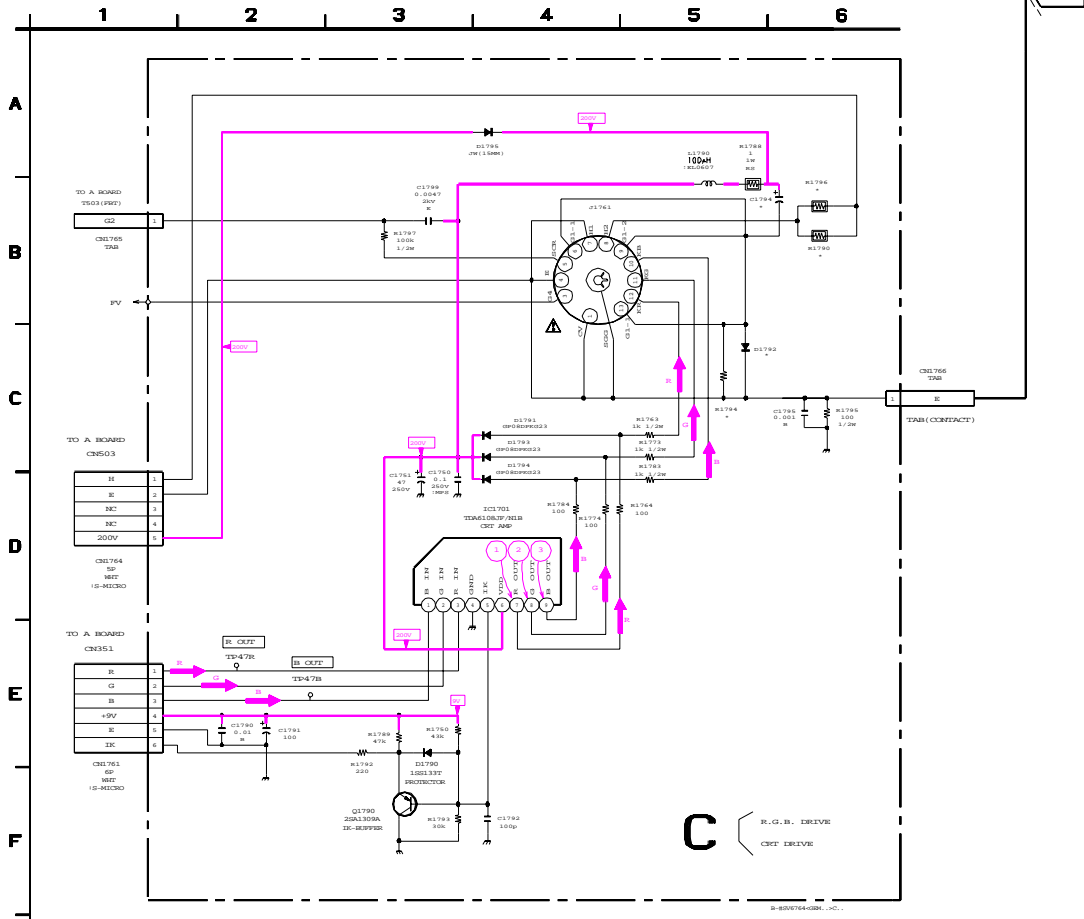


B BOARD IC VOLTAGE LIST

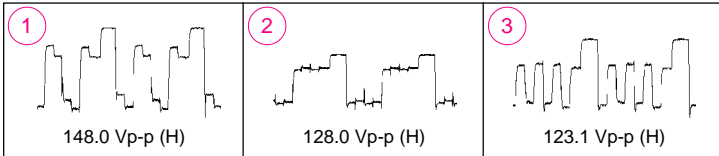
IC3501		IC3502		15	2.0	IC3503	
pin	volt	pin	volt	16	GND	pin	volt
1	3.5	1	5.0	17	0	OUT	5.0
2	0.7	2	GND	18	0	GND	GND
3	2.5	3	0	19	0	IN	8.6
4	3.3	4	1.5	20	NC	All voltages in V	
5	GND	5	1.5	21	GND		
6	GND	6	GND	22	5.0		
7	NC	7	5.0	23	5.0		
8	NC	8	1.1	24	GND	All voltages are in V	
9	3.5	9	5.0	25	NC		
10	5.0	10	1.0	26	GND		
11	5.0	11	0	27	2.4		
12	3.3	12	2.0	28	0		
13	2.3	13	2.7	29	NC		
14	3.0	14	0.9	30	NC		
15	0.7						
16	2.3						

B BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q3501	2.1	8.6	1.5
Q3502	1.4	GND	2.0
Q3503	4.1	8.6	3.5
Q3504	1.1	GND	1.7
Q3505	2.6	7.6	2.0
Q3506	7.6	3.0	8.2
Q3507	1.0	GND	1.7
Q3509	7.6	2.7	8.2
Q3510	2.7	7.6	2.0
Q3516	3.0	GND	3.6
Q3555	2.7	GND	3.4



C BOARD WAVEFORMS



1

2

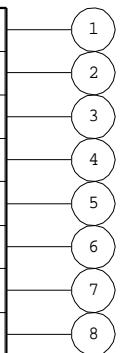
A

B

TO A BOARD

CN1231

E	1
FRONT R	2
FRONT L	3
FRONT-SW	4
FRONT C	5
FRONT V	6
E	7
FRONT Y	8

CN2102
8PTO HV BOARD
JW2231-JW2237

HS

[MICON-CTL]

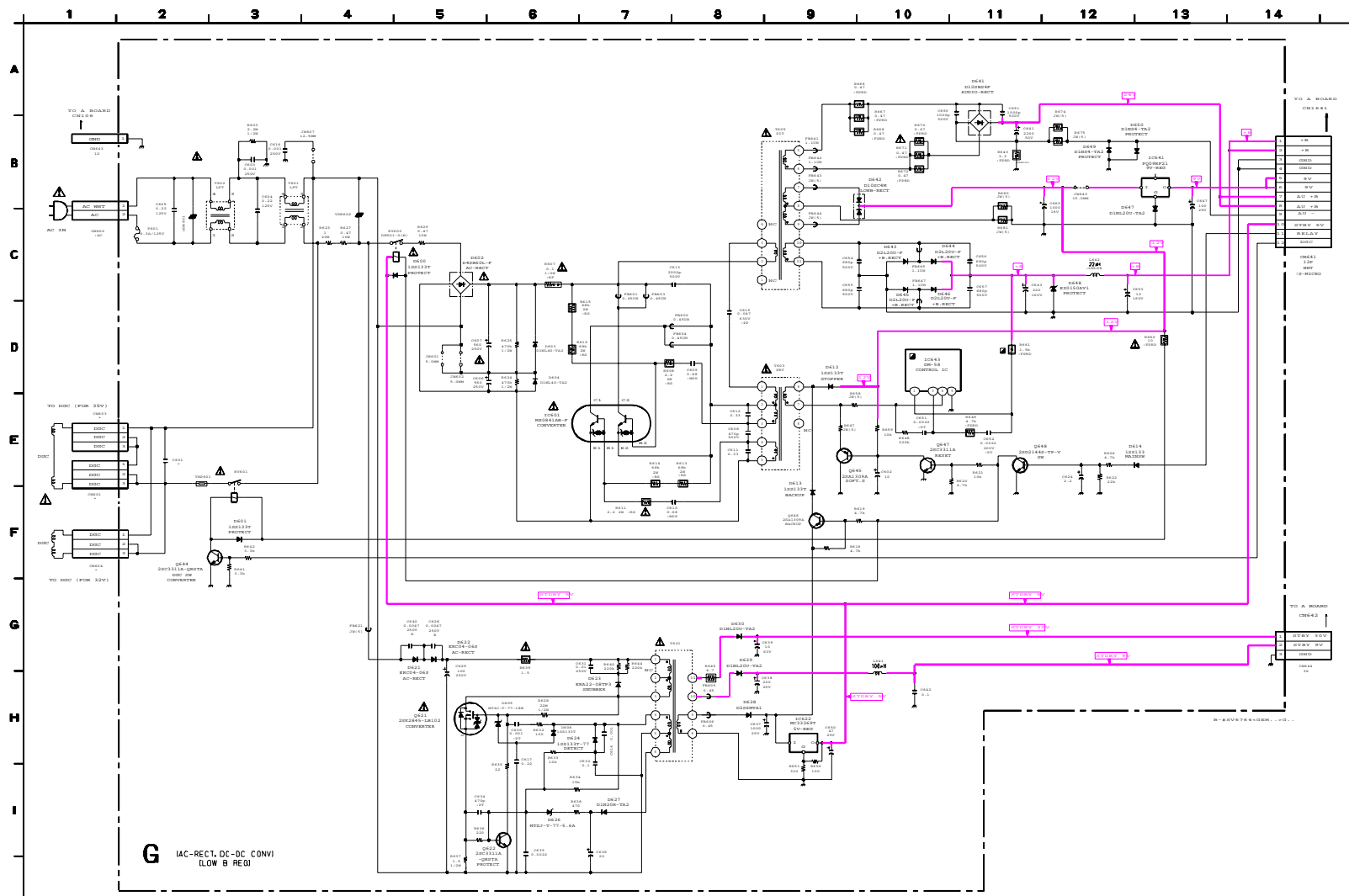
TO HV BOARD
JW2001-JW2008

1	1	SIRCS
2	2	STBY 5V
3	3	E
4	4	TIMER LED
5	5	ST LED
6	6	LUMIPON
7	7	POWER ON
8	8	E
9	9	KEY

TO A BOARD

CN1001

CN2101
9P
:S-MICRO



G BOARD IC VOLTAGE LIST

IC601	
pin	volt
C-1	7.0
C-2	151
B-1	-153
B-2	5.6
E-1	-151
E-2	7.0
IC622	
pin	volt
IN	7.0
OUT	5.4
G	GND
IC641	
pin	volt
IN	11.1
OUT	9.5
G	GND
IC643	
1	134
2	NC
3	2.4
4	8.2
5	GND

All voltages are in V

G BOARD TRANSISTOR VOLTAGE LIST

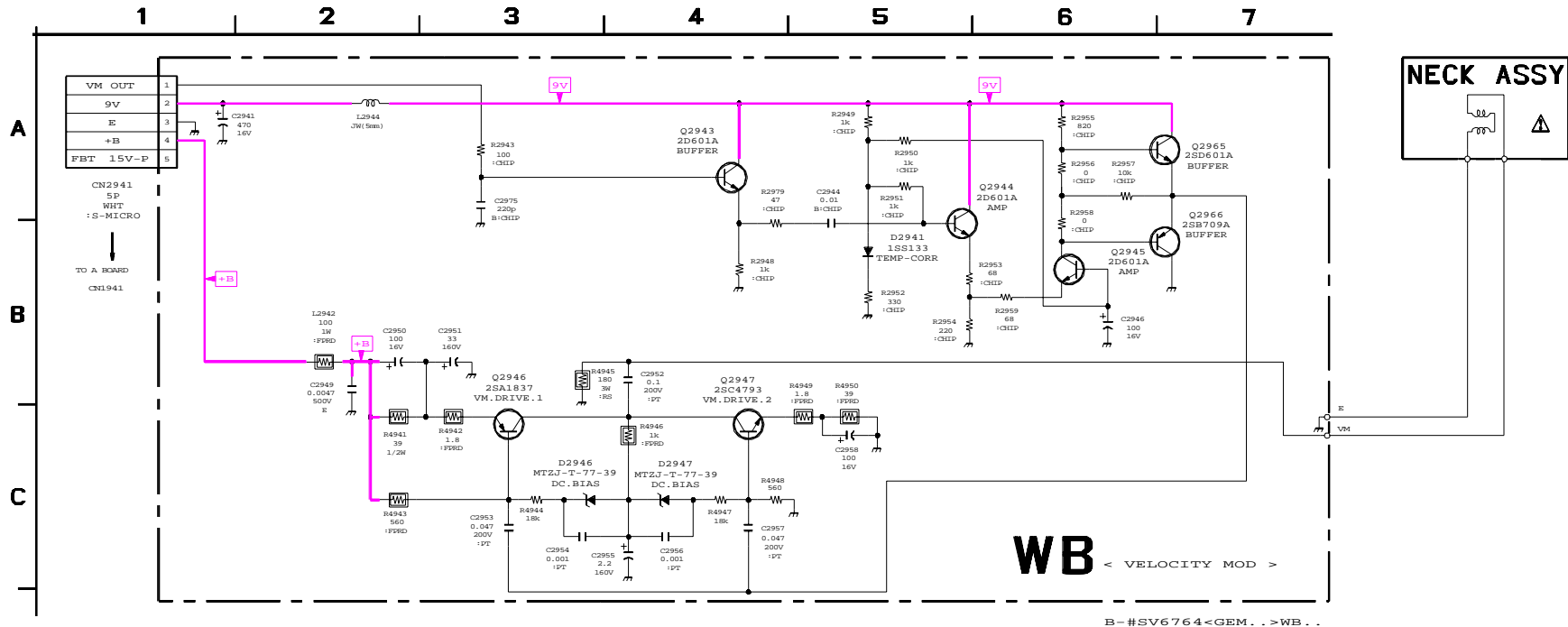
	B	C	E
Q622	0.4	2.5	0
Q644	0	11.1	GND
Q645	11.1	GND	8.2
Q646	6.2	6.9	6.9
Q647	0	11.1	GND
Q648	0.7	0.09	GND

All voltages are in V

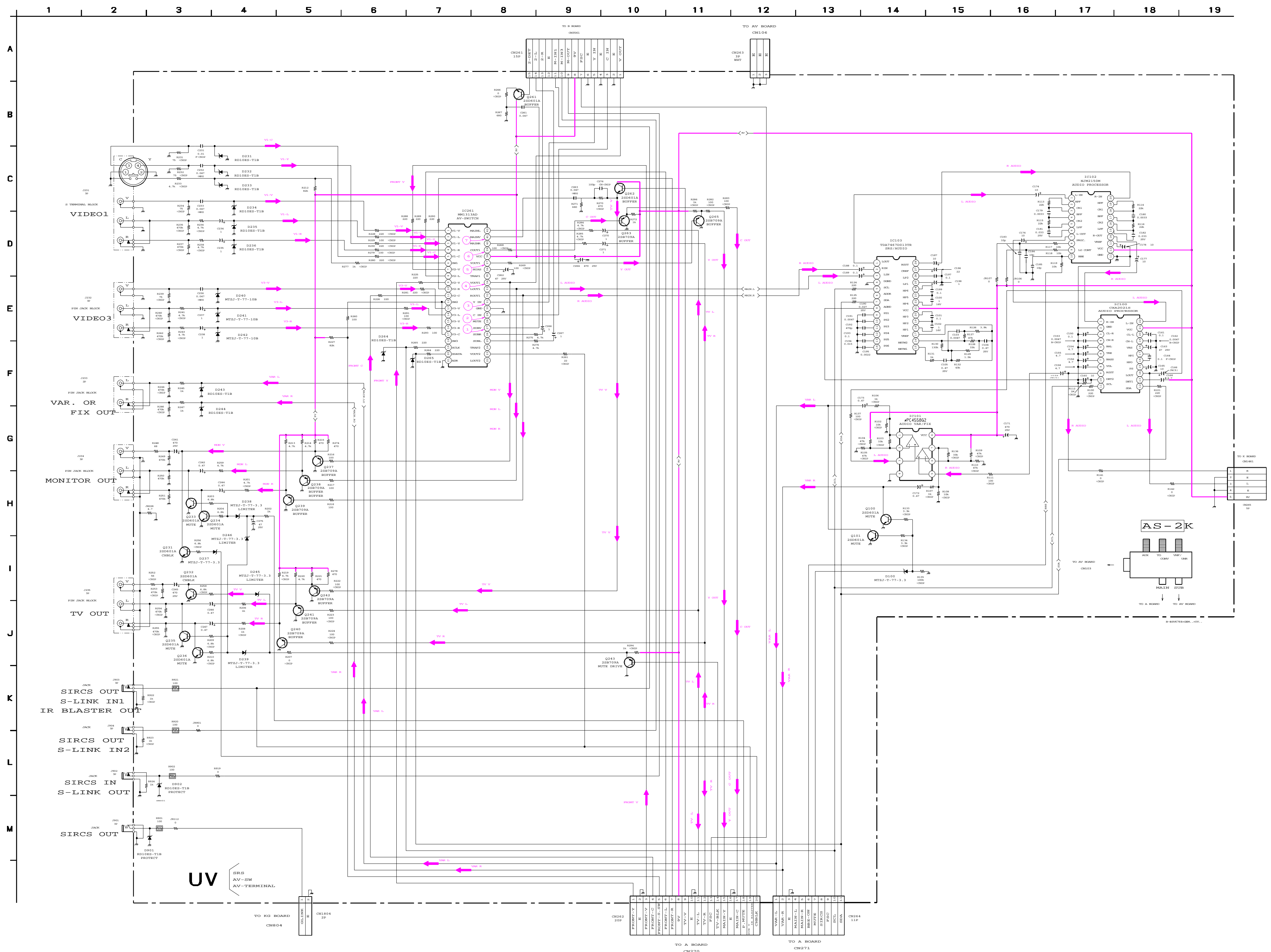
G BOARD TRANSISTOR VOLTAGE LIST

	D	G	S
Q621	147	2.5	0.1

All voltages are in V



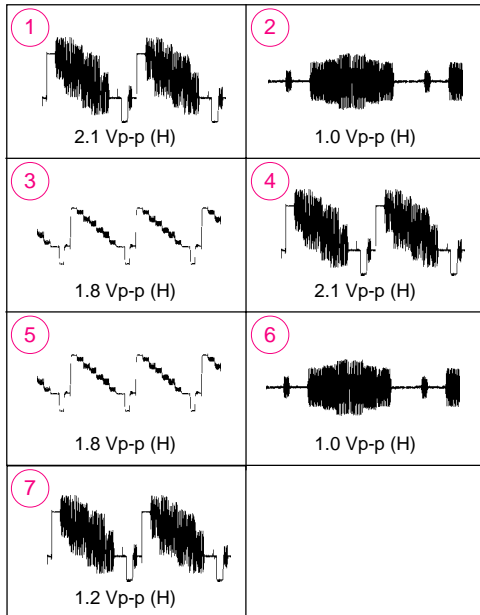
B-#SV6764<GEM..>WB..

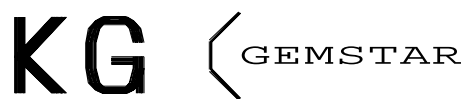


UV BOARD LOCATOR LIST

CONNECTOR		
CN261		A-5
CN262		F-8
CN263		A-3
CN264		F-2
CN265		A-7
DIODE		
D100		B-8
D231		B-5
D232		B-5
D233		B-5
D234		B-5
D235		B-5
D236		B-5
D237		E-3
D238		E-3
D239		E-3
D240		C-5
D241		C-5
D242		C-5
D243		F-3
D244		F-3
D245		E-3
D246		E-2
D264		F-1
D265		F-1
D902		B-1
IC		
IC100		A-7
IC101		C-8
IC102		B-7
IC103		D-7
IC261		C-4
TRANSISTOR		
Q100		B-8
Q101		B-8
Q231		D-3
Q232		C-2
Q233		E-3
Q234		D-3
Q235		C-2
Q236		C-3
Q237		C-3
Q238		C-3
Q239		C-3
Q240		B-2
Q241		B-3
Q242		A-3
Q243		F-5
Q261		A-4
Q262		A-4
Q263		B-3
Q265		B-4

UV BOARD WAVEFORMS





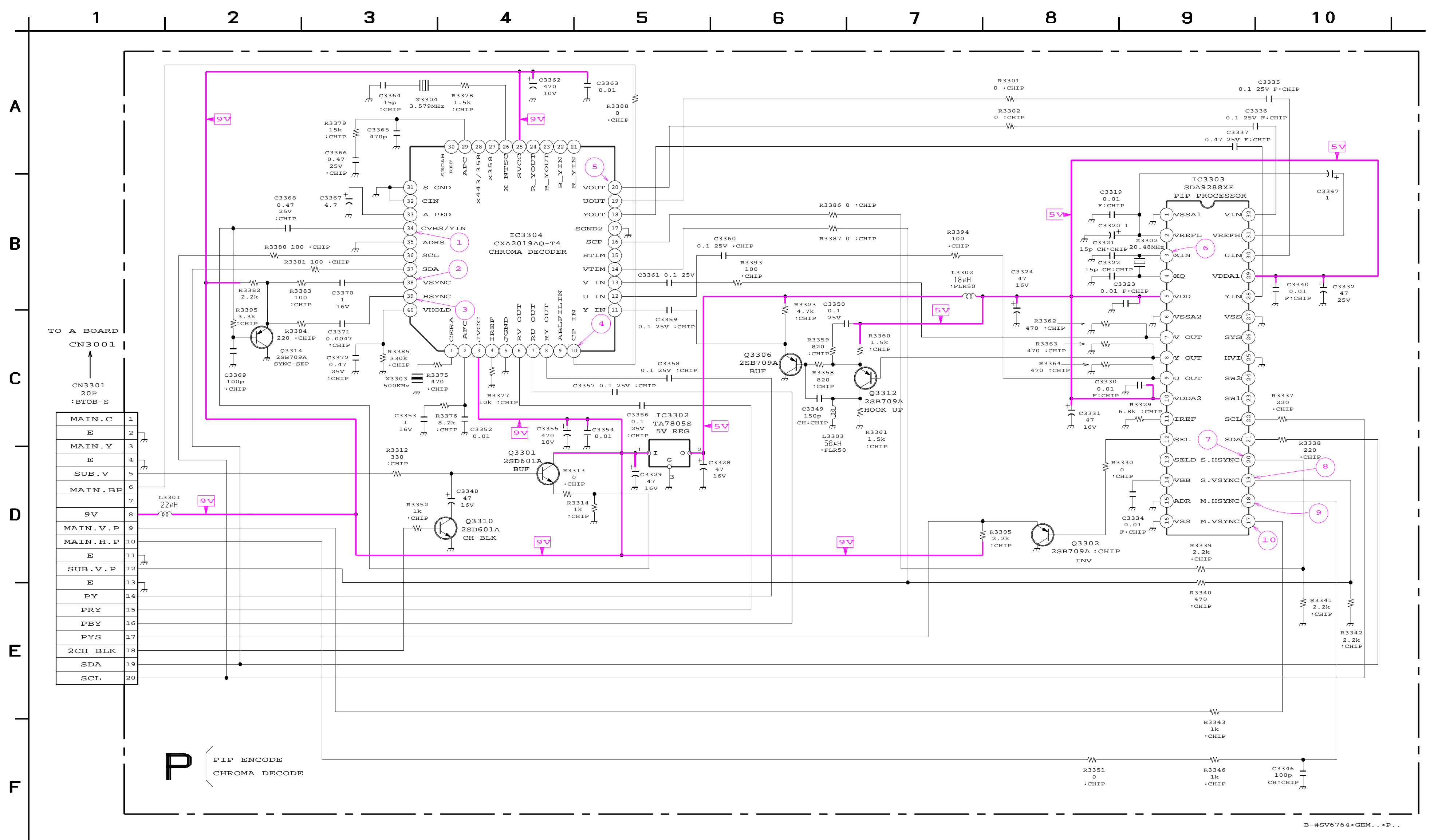
KG BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q801	2.5	0	3.1
Q802	5.6	0.7	5.2
Q803	5.2	0	5.2
Q804	0	0	0
Q805	1.8	0	2.5
Q830	5.2	4.9	5.2

All voltages are in V

KG BOARD IC VOLTAGE LIST

IC801		IC801		IC802		IC803		32	0
pin	volt	pin	volt	1	5.2	pin	volt	33	0.5
1	2.8	41	GND	2	2.5	1	4.9	34	0.8
2	2.1	42	5.1	3	2.5	2	1.7	35	GND
3	2.2	43	0.3	4	1.6	3	1.6	36	0.5
4	2.2	44	2.5	5	3.0	4	1.9	37	2.1
5	2.4	45	2.6	6	3.1	5	1.4	38	1.5
6	2.4	46	2.5	7	3.0	6	4.9	39	2.1
7	2.4	47	0	8	3.0	7	1.2	40	GND
8	2.4	48	0.1	9	2.4	8	1.7	IC805	
9	2.4	49	0.1	10	2.1	9	1.6	pin	volt
10	2.4	50	0.1	11	2.2	10	2.2	1	5.2
11	2.4	51	5.1	12	2.2	11	0	2	5.2
12	2.4	52	GND	13	1.7	12	0	3	GND
13	GND	53	0	14	1.6	13	4.6	IC806	
14	2.4	54	GND	15	1.9	14	4.2	pin	volt
15	2.4	55	0	16	GND	15	0	1	GND
16	2.4	56	0	17	1.4	16	3.0	2	5.2
17	2.1	57	0	18	1.2	17	3.0	3	5.2
18	2.1	58	0	19	1.7	18	3.0	4	1.2
19	2.1	59	0.7	20	1.6	19	2.2	5	5.2
20	4.9	60	GND	21	2.0	20	4.9	6	0
21	4.9	61	5.1	22	GND	21	GND	7	5.2
22	4.8	62	0.1	23	2.4	22	1.3	8	GND
23	0	63	0	24	3.9	23	0.4	9	NC
24	4.9	64	5.3	25	1.9	24	3.5	10	NC
25	0	65	5.1	26	1.7	25	1.7	11	5.2
26	0	66	4.6	27	3.1	26	1.9	12	GND
27	0	67	5.1	28	3.4	27	0	13	5.2
28	0	68	GND	29	2.4	28	4.8	14	NC
29	0	69	5.2	30	2.5	29	4.6	15	GND
30	0	70	5.2	31	5.2	30	0	16	5.2
31	5.1	71	5.1	32	5.2	31	0.5	All voltages are in V	
32	GND	72	GND						
33	0	73	5.1						
34	0	74	1.0						
35	NC	75	0						
36	0	76	0.1						
37	5.1	77	0						
38	5.3	78	0						
39	4.2	79	0						
40	GND	80	GND						



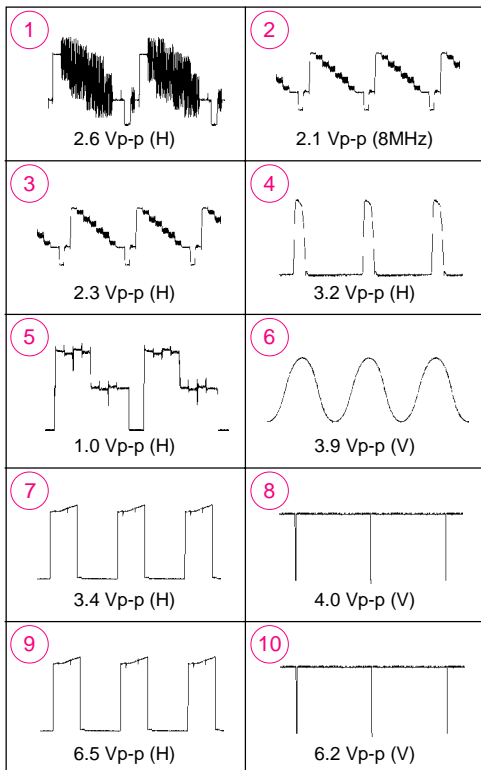
TO A BOARD
CN3001

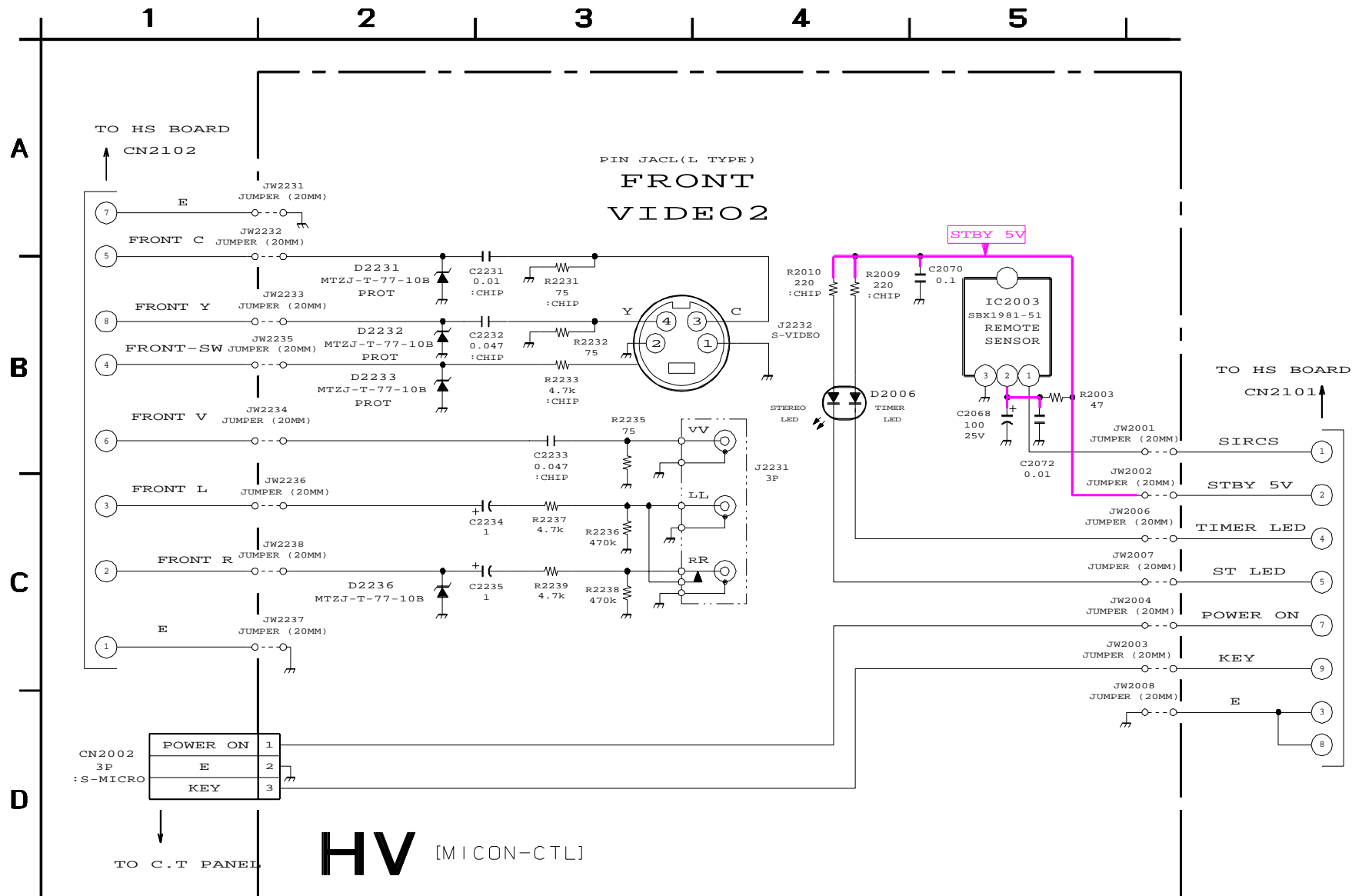
CN3301	20P	:BTOB-S
--------	-----	---------

MAIN.C	1
E	2
MAIN.Y	3
E	4
SUB.V	5
MAIN.BP	6
	7
9V	8
MAIN.V.P	9
MAIN.H.P	10
E	11
SUB.V.P	12
E	13
PY	14
PRY	15
PBY	16
PYS	17
2CH BLK	18
SDA	19
SCL	20

P PIP ENCODE
CHROMA DECODE

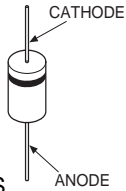
P BOARD WAVEFORMS



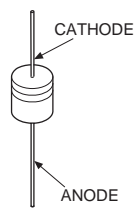


6-5. SEMICONDUCTORS

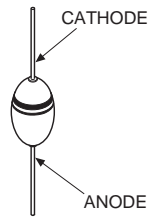
D1NL20U
D2L20U
EL1Z
EGP20G
EGP30G
ERA22-08
ERC06-15S
ERD29-08J
EZ0150AV1
GP08D
MTZJ-33A
1SS83



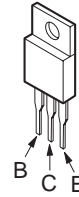
D1NS4
MTZJ-XXA
MTZJ-XXB
MTZJ-XXC
RDXXESB1
RDXXESB2
RDXXESB3
1SS119-25
1SS133T-77
(XX = VALUE)



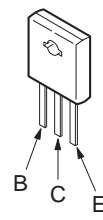
U05G



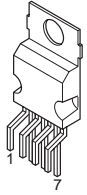
2SA1837
2SC4159-E
2SC4793
2SD2012



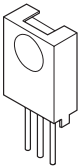
2SC4834M



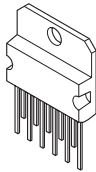
TDA8172



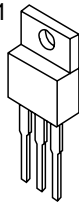
SBX1981



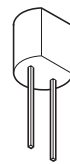
TDA2009A
TDA7262



NJM78M05FA
PQ09RF21
TA7805S
BA05T



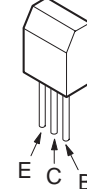
IC LINK
2A/90V



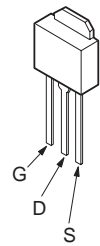
D10SC4M



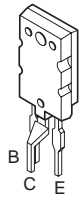
2SC3209LK



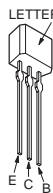
2SK2845-LB102



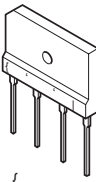
TSC5148
(LE SONY)



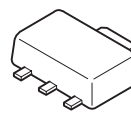
2SA1175-HFE
2SA933AS-QRT
2SC2785-HFE



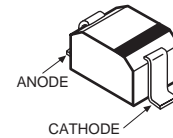
D10SBS4F
D6SB60L
D4SB60L



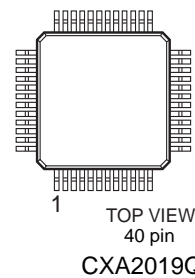
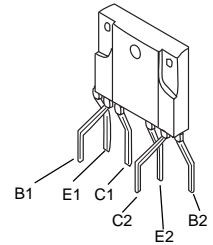
S-80748AL



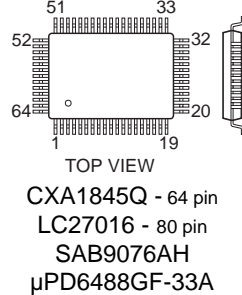
MA111
RD3.3SB
1SS355



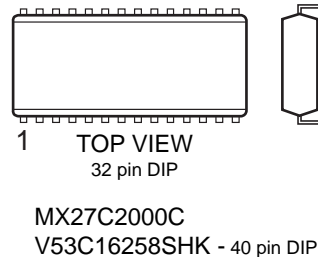
MX0841



CXA2019Q

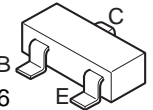


CXA1845Q - 64 pin
LC27016 - 80 pin
SAB9076AH
μPD6488GF-33A

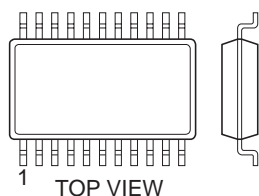


MX27C2000C
V53C16258SHK - 40 pin DIP

2SA1037K-T146-R
2SA1162-G
2SA1330-06
2SB709A
2SC1623-L5L6
2SD601A-Q



8 pin SOP
NJM2903M
NJM2904M
ST24C02FM6TR
μPC4558G2
X24C04SB



16 pin SOP
BU4053BCF-T2
CXA1315M
MC14052BF
MC14538B
NJM2145M-TE2

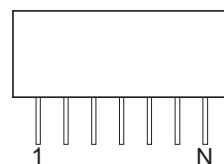
24 pin SOP
CXA2039M-T6

28 pin SOP
MN47V76ST1
MN47V77ST1

20 pin SOP
NJM2150M

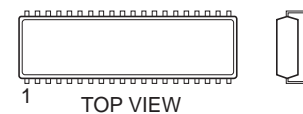
36 pin SOP
μPC1862GS-E2

DM-58



MARKING SIDE VIEW

Epin 1 ' N
EMt (one side, both sides)



14 pin DIP
NJM2902M

16 pin DIP
MM1093N

20 pin DIP
TA1226N

22 pin DIP
CXA2021S

28 pin DIP
TDA7467

30 pin DIP
CXD2073S

40 pin DIP
SDA9288XE

42 pin DIP
MM1311AD
MM1313AD

48 pin DIP
CXA2025AS
CXA2095S

64 pin DIP
CXP85856A-003S
CXP85840A

SECTION 7 EXPLODED VIEW

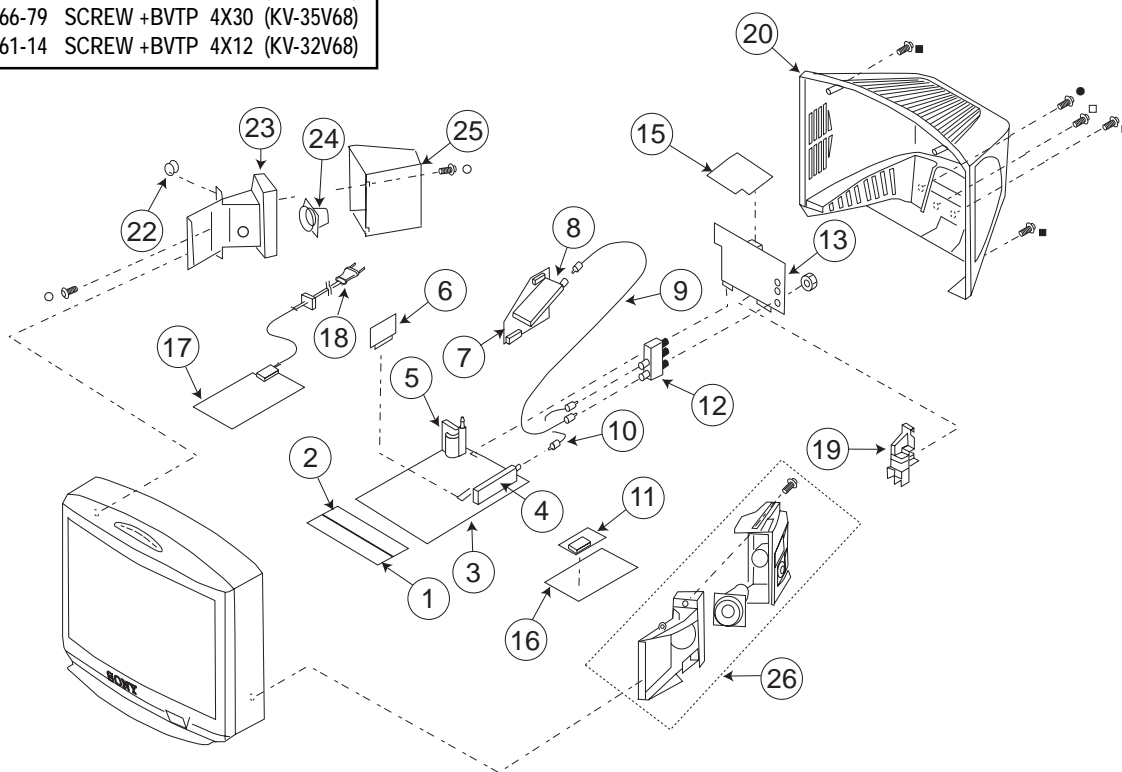
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The component parts of an assembly are indicated by the reference numbers in the remarks column.
- Items marked with an asterisk " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and "△" are critical for safety. Replace only with specified part number.

Les composants identifiés par un trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CHASSIS

■	7-685-663-91	SCREW +BVTP 4X16
□	7-685-648-79	SCREW +BVTP 3X12 (KV-32V68)
□	7-685-647-91	SCREW +BVTP 3X10 (KV-35V68)
●	7-685-665-71	SCREW +BVTP 4X25 (KV-32V68)
●	7-685-666-79	SCREW +BVTP 4X30 (KV-35V68)
○	7-685-661-14	SCREW +BVTP 4X12 (KV-32V68)

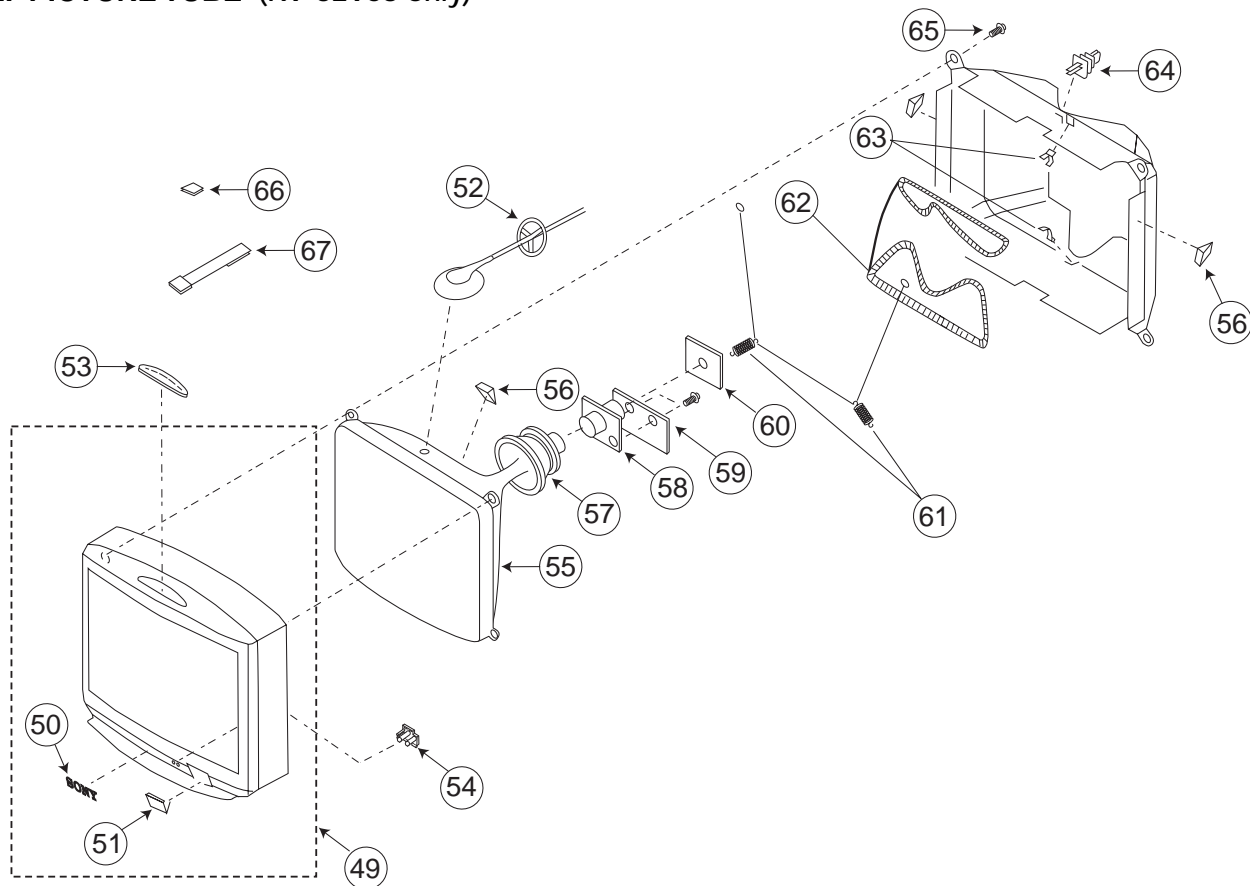


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	* A-1372-510-A	HS BOARD, COMPLETE		13	* A-1394-923-A	UV BOARD, COMPLETE	
2	* A-1372-509-A	HV BOARD, COMPLETE		15	* A-1135-949-A	B BOARD, COMPLETE	
3	* A-1298-707-A	A BOARD, COMPLETE	(KV-32V68)	16	* A-1380-585-A	K BOARD, COMPLETE	
3	* A-1298-706-A	A BOARD, COMPLETE	(KV-35V68)	17	* A-1316-421-A	G BOARD, COMPLETE	(KV-32V68)
4	△ 8-598-431-00	TUNER, FSS BTF-WA411		17	* A-1316-420-A	G BOARD, COMPLETE	(KV-35V68)
5	△ 1-453-207-11	FBT ASSY, NX2609//X4C (KV-32V68)		18	△ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	
5	△ X-4034-797-1	FBT ASSY, NX-3005//J1C (KV-35V68)		19	* 4-052-905-01	V5/6 BRACKET	
6	* A-1195-138-A	P BOARD, COMPLETE		20	4-053-766-21	COVER, REAR	(KV-32V68)
7	* A-1298-708-A	AV BOARD, COMPLETE		20	4-052-903-11	COVER, REAR	(KV-35V68)
8	△ 8-598-430-00	TUNER, BTF-FA401		22	4-374-745-31	CUSHION (A)	(KV-32V68)
9	* 1-556-945-21	CABLE, P-P		23	X-4035-400-1	BAFFLE ASSY, SPEAKER	(KV-32V68)
10	* 1-557-056-31	CABLE, P-P		24	1-503-326-21	SPEAKER (8CM)	(KV-32V68)
11	* A-1385-188-A	KG BOARD, COMPLETE		25	X-4035-401-1	COVER ASSY, SPEAKER	(KV- 32V68)
12	8-598-414-10	ANTENNA CHANGER AS-2F		26	1-505-684-11	SPEAKER UNIT, BOX TYPE (2WAY)	(KV-35V68)

The components identified by shading and "Δ" mark are critical for safety. Replace only with specified part number.

Les composants identifiés par un trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-2. PICTURE TUBE (KV-32V68 only)



REF.NO.	PART NO.	DESCRIPTION	REMARK
49	X-4035-593-1	BEZNET ASSY	50, 51
50	4-046-160-01	EMBLEM (NO. 9) SONY	
51	4-052-906-11	DOOR, CONTROL	
52	3-704-372-31	HOLDER, HV CABLE	
53	1-473-549-21	SWITCH BLOCK, CONTROL	
54	* 4-052-897-01	GUIDE, LED	
55	Δ 8-733-757-05	CRT 34FX2T(A80JYV52X)	
56	4-053-005-01	SPACER, DY	
57	Δ 8-451-482-11	DY Y34FXA2-V	
58	Δ 1-452-579-21	NECK ASSY, CRT (NA322)	
59	* A-1372-508-A	WB BOARD, MOUNTED	
60	* A-1331-837-A	C BOARD, COMPLETE	
61	4-036-329-01	SPRING (B) TENSION	
62	Δ 1-402-952-11	COIL, DEMAGNETIZATION	
63	* 4-371-629-01	STOPPER, WIRE	
64	4-033-681-01	HOLDER, LEAD	
65	4-041-268-01	SCREW (7), TAPPING	
66	1-452-885-11	MAGNET, LANDING	
67	4-062-047-01	PIECE A (110), CONV CORRECT	

SECTION 8

ELECTRICAL PARTS LIST

A

Note:

The components identified by shading and mark **△** are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par un trame et une marque **△** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• The components identified by **△** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F: nonflammable

CAPACITORS

- MF = μ F

INDUCTORS

- UH = μ H, MMH = mH

When indicating parts by reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION	REMARK			REF.NO.	PART NO.	DESCRIPTION	REMARK							
<div>A</div>						C077	1-126-960-11	ELECT	1MF	20%	50V					
						C080	1-126-767-11	ELECT	1000MF	20%	16V					
						C353	1-163-231-11	CERAMIC CHIP	15PF	5%	50V					
						C354	1-163-133-00	CERAMIC CHIP	470PF	5%	50V					
					*A-1298-707-A	A BOARD, COMPLETE (KV-32V68)					C355	1-126-959-11	ELECT	0.47MF	20%	50V
					*A-1298-706 -A	A BOARD, COMPLETE (KV-35V68)										
					4-382-854-11	SCREW (M3X10), P, SW (+)										
					<u>CAPACITOR</u>											
C001	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	C356	1-126-963-11	ELECT	4.7MF	20%	50V					
C003	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V	C357	1-126-959-11	ELECT	0.47MF	20%	50V					
C005	1-126-960-11	ELECT	1MF	20%	50V	C358	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C009	1-126-967-11	ELECT	47MF	20%	50V	C359	1-126-933-11	ELECT	100MF	20%	16V					
C010	1-163-033-91	CERAMIC CHIP	0.022MF		50V	C363	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C012	1-216-033-00	RES, CHIP	220	5%	1/10W	C364	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C013	1-216-121-91	RES, CHIP	1M	5%	1/10W	C365	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C014	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	C366	1-130-495-00	FILM	0.1MF	5%	50V					
C023	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	C367	1-130-495-00	FILM	0.1MF	5%	50V					
C028	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	C368	1-130-495-00	FILM	0.1MF	5%	50V					
C029	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	C369	1-163-243-11	CERAMIC CHIP	47PF	5%	50V					
C030	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	C370	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V					
C035	1-163-237-11	CERAMIC CHIP	27PF	5%	50V	C370	1-163-035-00	CERAMIC CHIP	0.047MF		50V					
C036	1-163-231-11	CERAMIC CHIP	15PF	5%	50V					(KV-35V68)						
C037	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	C371	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V					
C038	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	C372	1-126-959-11	ELECT	0.47MF	20%	50V					
C039	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	C373	1-126-960-11	ELECT	1MF	20%	50V					
C040	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	C376	1-126-964-11	ELECT	10MF	20%	50V					
C051	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C377	1-130-495-00	FILM	0.1MF	5%	50V					
C053	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C378	1-130-495-00	FILM	0.1MF	5%	50V					
C056	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	C379	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C061	1-163-033-91	CERAMIC CHIP	0.022MF		50V	C380	1-126-768-11	ELECT	2200MF	20%	16V					
C062	1-163-033-91	CERAMIC CHIP	0.022MF		50V	C381	1-163-003-11	CERAMIC CHIP	330PF	10%	50V					
C063	1-126-935-11	ELECT	470MF	20%	16V	C383	1-130-495-00	FILM	0.1MF	5%	50V					
C069	1-126-964-11	ELECT	10MF	20%	50V	C385	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V					
					(KV-35V68 ONLY)	C386	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V					
C070	1-126-967-11	ELECT	47MF	20%	50V	C387	1-126-961-11	ELECT	2.2MF	20%	50V					
C071	1-164-096-11	CERAMIC	0.01MF		50V	C388	1-126-959-11	ELECT	0.47MF	20%	50V					
C072	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	C390	1-126-960-11	ELECT	1MF	20%	50V					
C075	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	C391	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V					
C076	1-126-960-11	ELECT	1MF	20%	50V	C392	1-163-251-11	CERAMIC CHIP	100PF	5%	50V					
						C461	1-126-966-11	ELECT	33MF	20%	16V					
										(KV-32V68)						



Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C461	1-126-964-11	ELECT	10MF 20% 50V (KV-35V68)	C539 \triangle	1-126-935-11	ELECT	470MF 20% 16V (KV-32V68)
C478	1-126-934-11	ELECT	220MF 20% 16V	C539 \triangle	1-126-942-61	ELECT	1000MF 20% 25V (KV-35V68)
C479	1-126-964-11	ELECT	10MF 20% 50V (KV-35V68 ONLY)	C540	1-123-024-21	ELECT	33MF 160V
C501	1-163-259-91	CERAMIC CHIP	220PF 5% 50V	C541	1-128-560-11	ELECT	22MF 20% 100V
C502	1-126-959-11	ELECT	0.47MF 20% 50V	C542	1-106-383-00	MYLAR	0.047MF 10% 200V (KV-35V68 ONLY)
C503	1-163-003-11	CERAMIC CHIP	330PF 10% 50V	C545	1-106-387-00	MYLAR	0.068MF 10% 200V
C504	1-102-212-00	CERAMIC	820PF 10% 500V	C546	1-106-343-00	MYLAR	0.001MF 10% 100V
C505	1-102-002-00	CERAMIC	680PF 10% 500V	C547	1-106-343-00	MYLAR	0.001MF 10% 100V
C506	1-106-383-00	MYLAR	0.047MF 10% 200V	C551	1-163-037-11	CERAMIC CHIP	0.022MF 10% 50V
C507 \triangle	1-162-116-00	CERAMIC	680PF 10% 2KV	C561	1-126-967-11	ELECT	47MF 20% 50V
C508	1-102-244-00	CERAMIC	220PF 10% 500V	C563	1-126-934-11	ELECT	220MF 20% 10V
C509	1-162-116-00	CERAMIC	680PF 10% 2KV	C564	1-126-960-11	ELECT	1MF 20% 50V
C510	1-137-150-11	MYLAR	0.01MF 10% 100V	C565	1-126-969-11	ELECT	220MF 20% 50V
C511 \triangle	1-115-460-11	FILM	0.022MF 3% 1.2KV	C566	1-104-664-11	ELECT	47MF 20% 25V
C513 \triangle	1-130-895-00	FILM	0.056MF 5% 400V (KV-32V68)	C568	1-136-169-00	FILM	0.22MF 5% 50V
C513 \triangle	1-129-720-00	FILM	0.033MF 5% 630V (KV-35V68)	C571	1-104-664-11	ELECT	47MF 20% 25V
C514 \triangle	1-104-844-11	FILM	0.62MF 5% 200V (KV-32V68)	C1002	1-126-964-11	ELECT	10MF 20% 50V
C514 \triangle	1-136-540-11	FILM	0.82MF 5% 200V (KV-35V68)	C1101	1-126-768-11	ELECT	2200MF 20% 16V
C515	1-106-343-00	MYLAR	0.001MF 10% 100V	C1103	1-126-965-11	ELECT	22MF 20% 50V
C516	1-115-461-11	FILM	2MF 5% 200V	C1104	1-104-664-11	ELECT	47MF 20% 16V
C517	1-107-649-11	ELECT	2.2MF 20% 250V	C1105	1-104-664-11	ELECT	47MF 20% 16V
C518	1-106-395-00	MYLAR	0.15MF 10% 200V	C1106	1-126-964-11	ELECT	10MF 20% 50V
C519	1-162-815-11	CERAMIC	47PF 5% 500V	C1107	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C520	1-164-645-11	CERAMIC	1000PF 10% 500V (KV-32V68)	C1108	1-126-960-11	ELECT	1MF 20% 50V
C520	1-101-821-00	CERAMIC	0.0022MF 500V (KV-35V68)	C1109	1-126-964-11	ELECT	10MF 20% 50V
C521	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V (KV-32V68)	C1110	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C521	1-164-182-11	CERAMIC CHIP	0.0033MF 10% 50V (KV-35V68)	C1111	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C522	1-126-960-11	ELECT	1MF 20% 50V	C1112	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C525	1-102-244-00	CERAMIC	220PF 10% 500V	C1351	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C526	1-107-662-11	ELECT	22MF 20% 250V	C1352	1-126-933-11	ELECT	100MF 20% 16V
C527	1-162-116-00	CERAMIC	680PF 10% 2KV	C1353	1-163-037-11	CERAMIC CHIP	0.022MF 10% 50V
C528	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V	C1354	1-216-295-91	SHORT	
C529	1-128-551-11	ELECT	22MF 20% 25V	C1501	1-115-462-11	FILM	0.12MF 5% 200V (KV-32V68 ONLY)
C530	1-137-366-11	FILM	0.0022MF 5% 50V				
C531	1-126-965-11	ELECT	22MF 20% 50V				
C532	1-126-965-11	ELECT	22MF 20% 50V				
C534	1-126-967-11	ELECT	47MF 20% 50V				
C537	1-126-941-11	ELECT	470MF 20% 25V (KV-32V68)				
C537	1-126-942-61	ELECT	1000MF 20% 25V (KV-35V68)				

CONNECTOR

CN106	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
CN270	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P
CN271	1-573-978-21	CONNECTOR, BOARD TO BOARD 11P
CN351	* 1-564-509-11	PLUG, CONNECTOR 6P
CN461	* 1-564-508-11	PLUG, CONNECTOR 5P
CN501	* 1-580-798-11	CONNECTOR PIN (DY) 6P
CN503	* 1-564-508-11	PLUG, CONNECTOR 5P
CN642	* 1-564-506-11	PLUG, CONNECTOR 3P
CN1001	* 1-564-512-11	PLUG, CONNECTOR 9P
CN1101	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
CN1231	* 1-564-511-11	PLUG, CONNECTOR 8P		FERRITE BEAD			
CN1641	* 1-564-515-11	PLUG, CONNECTOR 12P		FB501	1-410-396-41	FERRITE 0.45UH	
CN1801	* 1-564-507-11	PLUG, CONNECTOR 4P		FB502	1-410-397-21	FERRITE 1.1UH	
CN1802	* 1-564-507-11	PLUG, CONNECTOR 4P		FB503	1-410-397-21	FERRITE 1.1UH	
CN1803	* 1-564-512-11	PLUG, CONNECTOR 9P		IC			
CN1941	* 1-564-508-11	PLUG, CONNECTOR 5P (KV-32V68)		IC001	8-752-897-19	IC CXP85848A-012S	
CN1941	* 1-564-511-11	PLUG, CONNECTOR 8P (KV-35V68)		IC002	8-759-562-42	IC CAT24WC08J-TE13	
CN3001	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P		IC351	8-752-082-73	IC CXA2095S	
DIODE				IC501	8-759-700-07	IC NJM2903M	
D001	8-719-991-33	DIODE 1SS133T-77		IC561	8-759-980-58	IC TDA8172	
D002	8-719-109-89	DIODE RD5.6ESB2		CHIP CONDUCTOR			
D003	8-719-991-33	DIODE 1SS133T-77		JR001	1-216-295-91	SHORT	
D004	8-719-110-17	DIODE RD10ESB2		JR200	1-216-295-91	SHORT	
D007	8-719-110-17	DIODE RD10ESB2		JR201	1-216-295-91	SHORT	
D008	8-719-110-17	DIODE RD10ESB2		JR202	1-216-295-91	SHORT	
D011	8-719-983-20	DIODE MTZJ-T-77-4.3C		JR501	1-216-295-91	SHORT	
D014	8-719-991-33	DIODE 1SS133T-77		JR4120	1-216-29591	SHORT	
D015	8-719-991-33	DIODE 1SS133T-77		COIL			
D353	8-719-991-33	DIODE 1SS133T-77		L001	1-408-421-00	INDUCTOR 100UH	
D356	8-719-991-33	DIODE 1SS133T-77		L002	1-408-421-00	INDUCTOR 100UH	
D360	8-719-110-17	DIODE RD10ESB2		L003	1-410-470-11	INDUCTOR 10UH	
D362	8-719-991-33	DIODE 1SS133T-77		L004	1-410-470-11	INDUCTOR 10UH	
D368	8-719-991-33	DIODE 1SS133T-77		L352	1-412-545-11	INDUCTOR 470UH	
D462	8-719-991-33	DIODE 1SS133T-77		L461	1-408-612-31	INDUCTOR 56UH (KV-32V68)	
D501	8-719-109-89	DIODE RD5.6ESB2		L461	1-408-617-31	INDUCTOR 180UH (KV-35V68)	
D502	8-719-945-80	DIODE ERC06-15S		L501 \triangle	1-411-976-11	COIL, HORIZONTAL LINEARITY	
D503	8-719-945-80	DIODE ERC06-15S		L502	1-412-552-11	INDUCTOR 2.2MMH	
D504	8-719-900-26	DIODE ERD29-08J		L503	1-406-677-11	INDUCTOR 10MMH	
D505	8-719-908-03	DIODE GP08D		L511	1-406-607-41	INDUCTOR 15MMH	
D506	8-719-908-03	DIODE GP08D		L517	1-412-552-11	INDUCTOR 2.2MMH	
D507	8-719-991-33	DIODE 1SS133T-77		L541	1-406-677-11	INDUCTOR 10MMH (KV-35V68 ONLY)	
D515	8-719-302-43	DIODE EL1Z		L1101	1-408-421-00	INDUCTOR 100UH	
D516	8-719-991-33	DIODE 1SS133T-77		L1102	1-410-470-11	INDUCTOR 10UH	
D518	8-719-991-33	DIODE 1SS133T-77		TRANSISTOR			
D519 \triangle	8-719-302-43	DIODE EL1Z		Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
D520	8-719-991-33	DIODE 1SS133T-77		Q002	8-729-422-27	TRANSISTOR 2SD601A-Q	
D521	8-719-921-63	DIODE MTZJ-7.5B		Q003	8-729-422-27	TRANSISTOR 2SD601A-Q	
D530	8-719-979-85	DIODE EGP20G		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
D531	8-719-979-85	DIODE EGP20G		Q010	8-729-422-27	TRANSISTOR 2SD601A-Q	
D534	8-719-302-43	DIODE EL1Z		Q011	8-729-422-27	TRANSISTOR 2SD601A-Q	
D536	8-719-908-03	DIODE GP08D		Q012	8-729-422-27	TRANSISTOR 2SD601A-Q	
D561	8-719-908-03	DIODE GP08D		Q013	8-729-422-27	TRANSISTOR 2SD601A-Q	
D562	8-719-991-33	DIODE 1SS133T-77		Q014	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1102	8-719-982-24	DIODE MTZJ-33A		Q015	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1103	8-719-109-89	DIODE RD5.6ESB2		Q016	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1263	8-719-110-17	DIODE RD10ESB2					
D1264	8-719-110-17	DIODE RD10ESB2					



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q017	8-729-216-22	TRANSISTOR 2SA1162-G		R036	1-216-049-91	RES, CHIP 1K 5%	1/10W
Q301	8-729-216-22	TRANSISTOR 2SA1162-G		R037	1-216-049-91	RES, CHIP 1K 5%	1/10W
Q302	8-729-216-22	TRANSISTOR 2SA1162-G		R038	1-216-049-91	RES, CHIP 1K 5%	1/10W
Q303	8-729-216-22	TRANSISTOR 2SA1162-G		R039	1-247-807-31	CARBON 100 5%	1/4W
Q354	8-729-422-27	TRANSISTOR 2SD601A-Q		R040	1-247-815-91	CARBON 220 5%	1/4W
Q356	8-729-216-22	TRANSISTOR 2SA1162-G		R041	1-216-065-91	RES, CHIP 4.7K 5%	1/10W
Q357	8-729-422-27	TRANSISTOR 2SD601A-Q		R042	1-216-065-91	RES, CHIP 4.7K 5%	1/10W
Q358	8-729-422-27	TRANSISTOR 2SD601A-Q		R044	1-216-049-91	RES, CHIP 1K 5%	1/10W
Q501	8-729-140-50	TRANSISTOR 2SC3209LK		R045	1-247-815-91	CARBON 220 5%	1/4W
Q502 \triangle	8-729-035-75	TRANSISTOR 2SC5148 (LBSONY)		R046	1-247-815-91	CARBON 220 5%	1/4W
Q511 \triangle	8-729-422-27	TRANSISTOR 2SD601A-Q		R047	1-249-417-11	CARBON 1K 5%	1/4W
Q512 \triangle	8-729-809-29	TRANSISTOR 2SC4159-E		R048	1-249-417-11	CARBON 1K 5%	1/4W
Q551	8-729-216-22	TRANSISTOR 2SA1162-G		R049	1-249-417-11	CARBON 1K 5%	1/4W
Q552	8-729-422-27	TRANSISTOR 2SD601A-Q		R052	1-216-061-00	RES, CHIP 3.3K 5%	1/10W
Q561	8-729-422-27	TRANSISTOR 2SD601A-Q		R053	1-216-061-00	RES, CHIP 3.3K 5%	1/10W
Q562	8-729-422-27	TRANSISTOR 2SD601A-Q		R054	1-216-061-00	RES, CHIP 3.3K 5%	1/10W
Q563	8-729-105-08	TRANSISTOR 2SA1330-06		R055	1-216-097-91	RES, CHIP 100K 5%	1/10W
Q1102	8-729-119-78	TRANSISTOR 2SC2785-HFE		R056	1-216-033-00	RES, CHIP 220 5%	1/10W
Q1103	8-729-422-27	TRANSISTOR 2SD601A-Q		R057	1-249-417-11	CARBON 1K 5%	1/4W
RESISTOR				R058	1-216-033-00	RES, CHIP 220 5%	1/10W
R001	1-216-045-00	RES, CHIP 680 5%	1/10W	R064	1-216-033-00	RES, CHIP 220 5%	1/10W
R002	1-247-815-91	CARBON 220 5%	1/4W	R065	1-216-033-00	RES, CHIP 220 5%	1/10W
R003	1-216-097-91	RES, CHIP 100K 5%	1/10W	R066	1-216-033-00	RES, CHIP 220 5%	1/10W
R004	1-216-121-91	RES, CHIP 1M 5%	1/10W	R067	1-216-041-00	RES, CHIP 470 5%	1/10W
R006	1-247-815-91	CARBON 220 5%	1/4W	R068	1-247-815-91	CARBON 220 5%	1/4W
R007	1-216-073-00	RES, CHIP 10K 5%	1/10W	R069	1-216-073-00	RES, CHIP 10K 5%	1/10W (KV-35V68 ONLY)
R008	1-247-815-91	CARBON 220 5%	1/4W	R070	1-249-421-11	CARBON 2.2K 5%	1/4W
R009	1-216-073-00	RES, CHIP 10K 5%	1/10W	R071	1-247-815-91	CARBON 220 5%	1/4W
R010	1-216-037-00	RES, CHIP 330 5%	1/10W	R072	1-216-033-00	RES, CHIP 220 5%	1/10W
R011	1-216-065-91	RES, CHIP 4.7K 5%	1/10W	R073	1-216-033-00	RES, CHIP 220 5%	1/10W
R012	1-216-033-00	RES, CHIP 220 5%	1/10W	R074	1-216-033-00	RES, CHIP 220 5%	1/10W
R013	1-216-065-91	RES, CHIP 4.7K 5%	1/10W	R075	1-216-033-00	RES, CHIP 220 5%	1/10W
R014	1-216-065-91	RES, CHIP 4.7K 5%	1/10W	R076	1-216-033-00	RES, CHIP 220 5%	1/10W
R015	1-216-073-00	RES, CHIP 10K 5%	1/10W	R077	1-216-033-00	RES, CHIP 220 5%	1/10W
R016	1-216-073-00	RES, CHIP 10K 5%	1/10W	R078	1-249-417-11	CARBON 1K 5%	1/4W
R019	1-249-425-11	CARBON 4.7K 5%	1/4W	R079	1-216-033-00	RES, CHIP 220 5%	1/10W
R020	1-216-065-91	RES, CHIP 4.7K 5%	1/10W	R080	1-216-065-91	RES, CHIP 4.7K 5%	1/10W
R021	1-216-033-00	RES, CHIP 220 5%	1/10W	R081	1-216-025-91	RES, CHIP 100 5%	1/10W
R022	1-249-429-11	CARBON 10K 5%	1/4W	R082	1-216-025-91	RES, CHIP 100 5%	1/10W
R023	1-216-089-91	RES, CHIP 47K 5%	1/10W	R083	1-249-429-11	CARBON 10K 5%	1/4W
R024 \triangle	1-249-381-11	CARBON 1 5%	1/4W F	R084	1-216-049-91	RES, CHIP 1K 5%	1/10W
R025	1-163-010-11	CERAMIC 0.0012MF 10%	50V	R085	1-216-073-00	RES, CHIP 10K 5%	1/10W (KV-35V68 ONLY)
R026	1-163-038-91	CERAMIC 0.1MF	25V	R086	1-247-807-31	CARBON 100 5%	1/4W
R027 \triangle	1-249-389-11	CARBON 4.7 5%	1/4W F	R087	1-247-815-91	CARBON 220 5%	1/4W
R028	1-249-417-11	CARBON 1K 5%	1/4W	R088	1-216-033-00	RES, CHIP 220 5%	1/10W
R029	1-216-025-91	RES, CHIP 100 5%	1/10W	R089	1-216-033-00	RES, CHIP 220 5%	1/10W
R030	1-249-425-11	CARBON 4.7K 5%	1/4W	R090	1-216-033-00	RES, CHIP 220 5%	1/10W
R031	1-247-815-91	CARBON 220 5%	1/4W	R091	1-216-033-00	RES, CHIP 220 5%	1/10W
R032	1-247-815-91	CARBON 220 5%	1/4W				

Note:

The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par un trame et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
R092	1-249-429-11	CARBON	10K	5%	1/4W	R385	1-249-422-11	CARBON	2.7K	5%	1/4W
R093 \triangle	1-249-387-11	CARBON	3.3	5%	1/4W F	R386	1-216-049-91	RES, CHIP	1K	5%	1/10W
R094 \triangle	1-249-381-11	CARBON	1	5%	1/4W F	R387	1-216-049-91	RES, CHIP	1K	5%	1/10W
R095	1-247-807-31	CARBON	100	5%	1/4W	R388	1-216-089-91	RES, CHIP	47K	5%	1/10W
R096	1-216-351-00	METAL OXIDE	1.5	5%	1W F	R389	1-216-067-00	RES, CHIP	5.6K	5%	1/10W
R097	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R390	1-216-035-00	RES, CHIP	270	5%	1/10W
R099	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R391	1-208-810-11	RES, CHIP	15K	0.50%	1/10W
R101 \triangle	1-249-381-11	CARBON	1	5%	1/4W F	R392	1-216-025-91	RES, CHIP	100	5%	1/10W
R131	1-216-035-00	RES, CHIP	270	5%	1/10W	R393	1-216-043-91	RES, CHIP	560	5%	1/10W
R132	1-216-115-00	RES, CHIP	560K	5%	1/10W	R394	1-216-059-00	RES, CHIP	2.7K	5%	1/10W
R133	1-216-039-00	RES, CHIP	390	5%	1/10W	R395	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R135	1-216-073-00	RES, CHIP	10K	5%	1/10W	R396	1-249-417-11	CARBON	1K	5%	1/4W
R136	1-216-073-00	RES, CHIP	10K	5%	1/10W	R397	1-249-425-11	CARBON	4.7K	5%	1/4W
R137	1-216-049-91	RES, CHIP	1K	5%	1/10W	R466	1-249-382-11	CARBON	1.2	5%	1/4W F
R353	1-208-788-11	RES, CHIP	1.8K	0.50%	1/10W						(KV-32V68 ONLY)
R354	1-216-077-00	RES, CHIP	15K	5%	1/10W	R501	1-216-037-00	RES, CHIP	330	5%	1/10W
R355	1-216-033-00	RES, CHIP	220	5%	1/10W	R502	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R356	1-216-033-00	RES, CHIP	220	5%	1/10W	R503	1-249-426-11	CARBON	5.6K	5%	1/4W F
R358	1-247-815-91	CARBON	220	5%	1/4W	R504 \triangle	1-215-915-11	METAL OXIDE	470	5%	3W F
R359	1-247-815-91	CARBON	220	5%	1/4W	R505	1-249-431-11	CARBON	15K	5%	1/4W
R360	1-247-815-91	CARBON	220	5%	1/4W	R506	1-215-861-00	METAL OXIDE	47	5%	1W F
R361	1-216-025-91	RES, CHIP	100	5%	1/10W						
R362	1-216-025-91	RES, CHIP	100	5%	1/10W	R507	1-249-401-11	CARBON	47	5%	1/4W
R363	1-216-025-91	RES, CHIP	100	5%	1/10W	R508	1-249-427-11	CARBON	6.8K	5%	1/4W
R364	1-216-101-00	RES, CHIP	150K	5%	1/10W	R509	1-247-750-11	CARBON	680	5%	1/2W F
R365	1-216-101-00	RES, CHIP	150K	5%	1/10W (KV-32V68)	R510 \triangle	1-215-860-11	METAL OXIDE	33	5%	1W F
R365	1-216-097-91	RES, CHIP	100K	5%	1/10W (KV-35V68)	R511 \triangle	1-215-885-00	METAL OXIDE	68	5%	2W F
R366	1-216-089-91	RES, CHIP	47K	5%	1/10W						(KV-32V68)
R367	1-216-097-91	RES, CHIP	100K	5%	1/10W	R511 \triangle	1-215-886-11	METAL OXIDE	100	5%	2W F
R368	1-249-441-11	CARBON	100K	5%	1/4W						(KV-35V68)
R369	1-216-097-91	RES, CHIP	100K	5%	1/10W	R512 \triangle	1-215-911-11	METAL OXIDE	100	5%	3W F
R370	1-249-417-11	CARBON	1K	5%	1/4W	R515	1-216-083-00	RES, CHIP	27K	5%	1/10W
R371	1-216-053-00	RES, CHIP	1.5K	5%	1/10W						(KV-32V68)
R372	1-216-113-00	RES, CHIP	470K	5%	1/10W	R515	1-216-077-00	RES, CHIP	15K	5%	1/10W
R373	1-216-073-00	RES, CHIP	10K	5%	1/10W						(KV-35V68)
R374	1-216-125-00	RES, CHIP	1.5M	5%	1/10W (KV-32V68)	R516	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R374	1-216-121-91	RES, CHIP	1M	5%	1/10W (KV-35V68)	R517	1-249-415-11	CARBON	680	5%	1/4W
R375	1-216-025-91	RES, CHIP	100	5%	1/10W	R518	1-216-073-00	RES, CHIP	10K	5%	1/10W
R376	1-216-073-00	RES, CHIP	10K	5%	1/10W	R519	1-249-411-11	CARBON	330	5%	1/4W
R379	1-216-033-00	RES, CHIP	220	5%	1/10W	R521 \triangle	1-215-915-11	METAL OXIDE	470	5%	3W F
R380	1-247-815-91	CARBON	220	5%	1/4W	R523	1-216-073-00	RES, CHIP	10K	5%	1/10W
R381	1-247-815-91	CARBON	220	5%	1/4W						(KV-32V68)
R382	1-216-033-00	RES, CHIP	220	5%	1/10W	R523	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
R383	1-216-049-91	RES, CHIP	1K	5%	1/10W						(KV-35V68)
R384	1-216-109-00	RES, CHIP	330K	5%	1/10W	R524	1-249-429-11	CARBON	10K	5%	1/4W
						R525	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
						R528	1-216-081-00	RES, CHIP	22K	5%	1/10W
						R529	1-208-814-91	RES, CHIP	22K	0.50%	1/10W
											(KV-32V68)
						R529	1-208-812-11	RES, CHIP	18K	0.50%	1/10W
											(KV-35V68)



Note:

The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

Note:

The components identified by \boxtimes in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
\boxtimes R530 \triangle	1-208-808-11	RES, CHIP	12K 0.50% 1/10W	R579	1-208-842-11	RES, CHIP	330K 0.50% 1/10W
\boxtimes R531 \triangle	1-208-826-11	RES, CHIP	68K 0.50% 1/10W (KV-32V68)	R580	1-249-441-11	CARBON	100K 5% 1/4W
\boxtimes R531 \triangle	1-208-838-91	RES, CHIP	220K 0.50% 1/10W (KV-35V68)	R1101	1-216-049-91	RES, CHIP	1K 5% 1/10W
R532	1-208-760-11	RES, CHIP	120 0.50% 1/10W	R1102	1-215-900-11	METAL OXIDE	22K 5% 2W F
R533 \triangle	1-215-902-11	METAL OXIDE	47K 5% 1W F (KV-32V68)	R1103	1-216-051-00	RES, CHIP	1.2K 5% 1/10W
R533 \triangle	1-215-878-00	METAL OXIDE	33K 5% 1W F (KV-35V68)	R1104	1-216-083-00	RES, CHIP	27K 5% 1/10W
R535	1-216-101-00	RES, CHIP	150K 5% 1/10W (KV-32V68)	R1105	1-216-689-11	RES, CHIP	39K 5% 1/10W
R535	1-216-103-00	RES, CHIP	180K 5% 1/10W (KV-35V68)	R1106	1-216-049-91	RES, CHIP	1K 5% 1/10W
R536 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F	R1107	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
R537 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F	R1108	1-216-073-00	RES, CHIP	10K 5% 1/10W
R538	1-247-887-00	CARBON	220K 5% 1/4W	R1109	1-216-019-00	RES, CHIP	56 5% 1/10W
R541	1-249-377-11	CARBON	0.47 5% 1/4W F (KV-35V68 ONLY)	R1110	1-216-019-00	RES, CHIP	56 5% 1/10W
R542	1-249-397-11	CARBON	22 5% 1/4W F (KV-35V68 ONLY)	R1111	1-216-019-00	RES, CHIP	56 5% 1/10W
R543 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F	R1115	1-216-045-00	RES, CHIP	680 5% 1/10W
R546	1-215-453-00	METAL	22K 1% 1/4W (KV-32V68)	R1117	1-249-425-11	CARBON	4.7K 5% 1/4W
R546	1-215-451-00	METAL	18K 1% 1/4W (KV-35V68)	R1118	1-249-425-11	CARBON	4.7K 5% 1/4W
R547	1-215-457-00	METAL	33K 1% 1/4W	R1120	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
R549	1-215-437-00	METAL	4.7K 1% 1/4W	R1121	1-216-035-00	RES, CHIP	270 5% 1/10W
R550 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F	R1122	1-216-115-00	RES, CHIP	560K 5% 1/10W
R551 \triangle	1-215-873-00	METAL OXIDE	4.7K 5% 1W F	R1123	1-216-039-00	RES, CHIP	390 5% 1/10W
R552	1-216-069-00	RES, CHIP	6.8K 5% 1/10W	R1125	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
R553 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F	R1126	1-216-035-00	RES, CHIP	270 5% 1/10W
R554	1-216-057-00	RES, CHIP	2.2K 5% 1/10W	R1127	1-216-115-00	RES, CHIP	560K 5% 1/10W
R561	1-216-073-00	RES, CHIP	10K 5% 1/10W	R1128	1-216-039-00	RES, CHIP	390 5% 1/10W
R563 \triangle	1-216-351-00	METAL OXIDE	1.5 5% 1W F	R1130	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
R564	1-249-393-11	CARBON	10 5% 1/4W	R1351	1-247-815-91	CARBON	220 5% 1/4W
R565 \triangle	1-215-890-11	METAL OXIDE	470 5% 2W F	R1352	1-247-815-91	CARBON	220 5% 1/4W
R566	1-216-073-00	RES, CHIP	10K 5% 1/10W	R1353	1-247-815-91	CARBON	220 5% 1/4W
R567 \triangle	1-249-385-11	CARBON	2.2 5% 1/4W F	R1354	1-216-033-00	RES, CHIP	220 5% 1/10W
R568	1-216-073-00	RES, CHIP	10K 5% 1/10W	R1355	1-216-025-91	RES, CHIP	100 5% 1/10W
R569	1-216-073-00	RES, CHIP	10K 5% 1/10W	R1356	1-216-025-91	RES, CHIP	100 5% 1/10W
R570	1-216-097-91	RES, CHIP	100K 5% 1/10W	R1357	1-216-025-91	RES, CHIP	100 5% 1/10W
R571	1-216-081-00	RES, CHIP	22K 5% 1/10W	R1358	1-247-807-31	CARBON	100 5% 1/4W
R572	1-216-081-00	RES, CHIP	22K 5% 1/10W	R1359	1-216-025-91	RES, CHIP	100 5% 1/10W
R573	1-216-097-91	RES, CHIP	100K 5% 1/10W	R1360	1-216-069-00	RES, CHIP	6.8K 5% 1/10W
R574 \triangle	1-216-365-00	METAL OXIDE	0.47 5% 2W F	R1361	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
R575	1-216-113-00	RES, CHIP	470K 5% 1/10W	R1362	1-216-295-91	SHORT	
R576	1-216-073-00	RES, CHIP	10K 5% 1/10W				
R577	1-216-097-91	RES, CHIP	100K 5% 1/10W				
R578	1-208-784-11	RES, CHIP	1.2K 0.50% 1/10W				

SWITCH

S501 1-572-707-11 SWITCH, LEVER

TRANSFORMER

T501 1-437-210-11 TRANSFORMER, HORIZONTAL DRIVE
 T502 \triangle 1-424-545-11 TRANSFORMER, FERRITE (PMT) (KV-32V68)
 T502 \triangle 1-429-408-11 TRANSFORMER, FERRITE (PMT) (KV-35V68)
 T503 \triangle 1-453-207-11 FBT ASSY, NX-2609//X4C (KV-32V68)
 T503 \triangle X-4034-797-1 FBT ASSY, NX-3005//J1C (KV-35V68)
 T504 1-413-059-00 TRANSFORMER, FERRITE (DFT) (KV-35V68 ONLY)

Note: The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<u>TUNER</u>				<u>CHIP CONDUCTOR</u>			
TU102 \triangle	8-598-431-00	FSS TUNER, BTF-WA411		JR103	1-216-295-91	SHORT	
<u>CRYSTAL</u>				<u>COIL</u>			
X001	1-578-774-11	VIBRATOR, CRYSTAL		L102	1-410-470-11	INDUCTOR 10UH	
X353	1-567-505-11	OSCILLATOR, CRYSTAL		L105	1-408-421-00	INDUCTOR 100UH	
X354	1-577-611-11	OSCILALTOR, CERAMIC		<u>TRANSISTOR</u>			
AV				Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
				Q103	8-729-216-22	TRANSISTOR 2SA1162-G	
*A-1298-708-A AV BOARD, COMPLETE				Q104	8-729-216-22	TRANSISTOR 2SA1162-G	
<u>CAPACITOR</u>				Q105	8-729-216-22	TRANSISTOR 2SA1162-G	
C101	1-126-960-11	ELECT 1MF 20%	50V	Q106	8-729-422-27	TRANSISTOR 2SD601A-Q	
C102	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V	Q1901	8-729-216-22	TRANSISTOR 2SA1162-G	
C103	1-126-965-11	ELECT 22MF 20%	50V	Q1902	8-729-216-22	TRANSISTOR 2SA1162-G	
C104	1-126-964-11	ELECT 10MF 20%	50V	<u>RESISTOR</u>			
C106	1-104-664-11	ELECT 47MF 20%	25V	R101	1-216-065-91	RES, CHIP 4.7K 5%	1/10W
C108	1-126-933-11	ELECT 100MF 20%	16V	R102	1-216-083-00	RES, CHIP 27K 5%	1/10W
C109	1-163-259-91	CERAMIC CHIP 220PF 5%	50V	R103	1-216-689-11	RES, CHIP 39K 5%	1/10W
C110	1-104-760-11	CERAMIC CHIP 0.047MF 10%	50V	R104	1-216-045-00	RES, CHIP 680 5%	1/10W
C111	1-126-960-11	ELECT 1MF 20%	50V	R105	1-215-889-00	METAL OXIDE 330 5%	2W F
C113	1-126-934-11	ELECT 220MF 20%	16V	R106	1-216-081-00	RES, CHIP 22K 5%	1/10W
C115	1-104-664-11	ELECT 47MF 20%	16V	R107	1-216-081-00	RES, CHIP 22K 5%	1/10W
C149	1-104-664-11	ELECT 47MF 20%	25V	R108	1-216-081-00	RES, CHIP 22K 5%	1/10W
C1904	1-102-129-00	CERAMIC 0.01MF 10%	50V	R109	1-216-081-00	RES, CHIP 22K 5%	1/10W
C1905	1-126-964-11	ELECT 10MF 20%	50V	R112	1-216-057-00	RES, CHIP 2.2K 5%	1/10W
C1906	1-102-129-00	CERAMIC 0.01MF 10%	50V	R113	1-216-097-91	RES, CHIP 100K 5%	1/10W
C1907	1-126-964-11	ELECT 10MF 20%	50V	R114	1-216-121-91	RES, CHIP 1M 5%	1/10W
C1908	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V	R115	1-216-073-00	RES, CHIP 10K 5%	1/10W
C1909	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V	R116	1-216-073-00	RES, CHIP 10K 5%	1/10W
<u>CONNECTOR</u>				R117	1-216-065-91	RES, CHIP 4.7K 5%	1/10W
CN101	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P		R118	1-216-295-91	SHORT	
CN102	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P		R121	1-216-049-91	RES, CHIP 1K 5%	1/10W
CN103	* 1-564-507-11	PLUG, CONNECTOR 4P		R125	1-216-043-91	RES, CHIP 560 5%	1/10W
CN106	* 1-564-506-11	PLUG, CONNECTOR 3P		R126	1-216-045-00	RES, CHIP 680 5%	1/10W
<u>DIODE</u>				R1904	1-216-073-00	RES, CHIP 10K 5%	1/10W
D101	8-719-109-89	DIODE RD5.6ESB2		R1905	1-216-073-00	RES, CHIP 10K 5%	1/10W
D102	8-719-982-24	DIODE MTZJ-33A		R2904	1-216-033-00	RES, CHIP 220 5%	1/10W
D103	8-719-991-33	DIODE 1SS133T-77		R2905	1-216-033-00	RES, CHIP 220 5%	1/10W
D104	8-719-991-33	DIODE 1SS133T-77		R2909	1-216-073-00	RES, CHIP 10K 5%	1/10W
D105	8-719-991-33	DIODE 1SS133T-77		R2910	1-216-073-00	RES, CHIP 10K 5%	1/10W
D106	8-719-991-33	DIODE 1SS133T-77		R2912	1-216-073-00	RES, CHIP 10K 5%	1/10W
<u>IC</u>				R2913	1-216-073-00	RES, CHIP 10K 5%	1/10W
IC101	8-759-394-36	IC BA09T		R2914	1-216-073-00	RES, CHIP 10K 5%	1/10W
IC1901	8-752-058-68	IC CXA1315M		<u>TUNER</u>			
IC1902	8-759-470-63	IC NJM2145M-TE2		TU101 \triangle	8-598-430-00	FSS TUNER, BTF-FA401	

B

REF. NO.	PART NO.	DESCRIPTION	REMARK
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B

*A-1135-949-A B BOARD, COMPLETE

CAPACITOR

C3501	1-104-664-11	ELECT	47MF	20%	25V
C3502	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3503	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3504	1-126-964-11	ELECT	10MF	20%	50V
C3505	1-163-131-00	CERAMIC CHIP	390PF	5%	50V

C3506	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3507	1-126-963-11	ELECT	4.7MF	20%	50V
C3508	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3509	1-126-961-11	ELECT	2.2MF	20%	50V
C3510	1-163-229-11	CERAMIC CHIP	12PF	5%	50V

C3511	1-126-960-11	ELECT	1MF	20%	50V
C3512	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3513	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C3514	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C3515	1-126-963-11	ELECT	4.7MF	20%	50V

C3516	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
C3517	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3518	1-126-941-11	ELECT	470MF	20%	25V
C3519	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3520	1-163-133-00	CERAMIC CHIP	470PF	5%	50V

C3521	1-104-664-11	ELECT	47MF	20%	25V
C3522	1-126-964-11	ELECT	10MF	20%	50V
C3523	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3524	1-104-664-11	ELECT	47MF	20%	25V
C3525	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V

C3526	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3527	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3528	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C3529	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3532	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

C3533	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3534	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3535	1-104-664-11	ELECT	47MF	20%	25V
C3536	1-126-964-11	ELECT	10MF	20%	50V
C3537	1-163-231-11	CERAMIC CHIP	15PF	5%	50V

C3538	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3539	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3540	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3541	1-104-664-11	ELECT	47MF	20%	25V
C3542	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V

C3543	1-104-664-11	ELECT	47MF	20%	25V
C3544	1-104-664-11	ELECT	47MF	20%	25V
C3545	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3548	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

REF. NO.	PART NO.	DESCRIPTION	REMARK
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C3549	1-126-964-11	ELECT	10MF 20% 50V
C3550	1-104-664-11	ELECT	47MF 20% 25V
C3551	1-163-021-91	CERAMIC CHIP	0.01MF 10% 50V
C3553	1-126-941-11	ELECT	470MF 20% 25V
C3556	1-128-551-11	ELECT	22MF 20% 25V

CONNECTOR

CN3502	1-573-978-21	CONNECTOR, BOARD TO BOARD 11P
CN3561	*1-691-616-21	CONNECTOR, BOARD TO BOARD 15P

FILTER

FL3501	1-239-847-11	FILTER, LOW PASS
FL3502	1-239-847-11	FILTER, LOW PASS
FL3503	1-239-847-11	FILTER, LOW PASS

IC

IC3501	8-759-065-82	IC MM1093ND
IC3502	8-752-385-80	IC CXD2073S
IC3503	8-759-231-53	IC TA7805S

COIL

L3501	1-410-470-11	INDUCTOR	10UH
L3502	1-410-466-41	INDUCTOR	4.7UH
L3503	1-410-470-11	INDUCTOR	10UH
L3504	1-410-470-11	INDUCTOR	10UH
L3505	1-410-470-11	INDUCTOR	10UH

TRANSISTOR

Q3501	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3502	8-729-216-22	TRANSISTOR	2SA1162-G
Q3503	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3504	8-729-216-22	TRANSISTOR	2SA1162-G
Q3505	8-729-422-27	TRANSISTOR	2SD601A-Q

Q3506	8-729-216-22	TRANSISTOR	2SA1162-G
Q3507	8-729-216-22	TRANSISTOR	2SA1162-G
Q3509	8-729-216-22	TRANSISTOR	2SA1162-G
Q3510	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3516	8-729-216-22	TRANSISTOR	2SA1162-G
Q3555	8-729-216-22	TRANSISTOR	2SA1162-G

RESISTOR

R3501	1-216-091-00	RES, CHIP	56K 5% 1/10W
R3502	1-216-081-00	RES, CHIP	22K 5% 1/10W
R3503	1-216-009-91	RES, CHIP	22 5% 1/10W
R3504	1-216-029-00	RES, CHIP	150 5% 1/10W
R3505	1-216-037-00	RES, CHIP	330 5% 1/10W

R3506	1-216-035-00	RES, CHIP	270 5% 1/10W
R3507	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
R3508	1-216-043-91	RES, CHIP	560 5% 1/10W
R3509	1-216-075-00	RES, CHIP	12K 5% 1/10W
R3510	1-216-049-91	RES, CHIP	1K 5% 1/10W

Note: The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



REF. NO.	PART NO.	DESCRIPTION	REMARK			
R3511	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
R3512	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
R3513	1-216-041-00	RES, CHIP	470	5%	1/10W	
R3514	1-216-121-91	RES, CHIP	1M	5%	1/10W	
R3515	1-216-077-00	RES, CHIP	15K	5%	1/10W	
R3516	1-216-037-00	RES, CHIP	330	5%	1/10W	
R3517	1-216-077-00	RES, CHIP	15K	5%	1/10W	
R3518	1-216-067-00	RES, CHIP	5.6K	5%	1/10W	
R3520	1-208-766-11	RES, CHIP	220	0.50%	1/10W	
R3521	1-208-766-11	RES, CHIP	220	0.50%	1/10W	
R3522	1-208-774-11	RES, CHIP	470	0.50%	1/10W	
R3523	1-208-778-11	RES, CHIP	680	0.50%	1/10W	
R3524	1-208-794-11	RES, CHIP	3.3K	0.50%	1/10W	
R3529	1-216-295-91	SHORT				
R3531	1-216-295-91	SHORT				
R3534	1-216-295-91	SHORT				
R3535	1-216-295-91	SHORT				
R3536	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	
R3537	1-216-043-91	RES, CHIP	560	5%	1/10W	
R3538	1-216-071-00	RES, CHIP	8.2K	5%	1/10W	
R3539	1-216-089-91	RES, CHIP	47K	5%	1/10W	
R3540	1-216-049-91	RES, CHIP	1K	5%	1/10W	
R3541	1-216-081-00	RES, CHIP	22K	5%	1/10W	
R3542	1-216-041-00	RES, CHIP	470	5%	1/10W	
R3543	1-216-035-00	RES, CHIP	270	5%	1/10W	
R3544	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	
R3545	1-216-043-91	RES, CHIP	560	5%	1/10W	
R3546	1-216-071-00	RES, CHIP	8.2K	5%	1/10W	
R3547	1-216-089-91	RES, CHIP	47K	5%	1/10W	
R3548	1-216-081-00	RES, CHIP	22K	5%	1/10W	
R3549	1-216-049-91	RES, CHIP	1K	5%	1/10W	
R3550	1-208-774-11	RES, CHIP	470	0.50%	1/10W	
R3551	1-208-764-11	RES, CHIP	180	0.50%	1/10W	
R3565	1-216-295-91	SHORT				
R3566	1-216-025-91	RES, CHIP	100	5%	1/10W	
R3568	1-216-025-91	RES, CHIP	100	5%	1/10W	
R3569	1-216-041-00	RES, CHIP	470	5%	1/10W	
R3578	1-216-081-00	RES, CHIP	22K	5%	1/10W	
R3579	1-216-081-00	RES, CHIP	22K	5%	1/10W	
R3580	1-216-295-91	SHORT				
R3596	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	
R3597	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	
R3599	1-208-774-11	RES, CHIP	470	0.50%	1/10W	
CRYSTAL						
X3501	1-567-505-11	OSCILLATOR, CRYSTAL				

REF. NO.	PART NO.	DESCRIPTION	REMARK			
C						
	* A-1331-837-A	C BOARD, COMPLETE	(KV-32V68)			
	* A-1331-843-A	C BOARD, COMPLETE	(KV-35V68)			
	4-382-854-11	SCREW (M3X10), P, SW (+)				
CAPACITOR						
C1750	1-137-528-11	FILM	0.1MF	10%	250V	
C1751	1-107-655-11	ELECT	47MF	20%	250V	
C1790	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C1791	1-126-968-11	ELECT	100MF	20%	50V	
C1792	1-102-106-00	CERAMIC	100PF	10%	50V	
C1794	1-107-651-11	ELECT	4.7MF	20%	250V (KV-35V68 ONLY)	
C1795	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1799	1-162-114-00	CERAMIC	0.0047MF		2KV	
CONNECTOR						
CN1761	* 1-564-509-11	PLUG, CONNECTOR	6P			
CN1764	* 1-564-508-11	PLUG, CONNECTOR	5P			
CN1766	1-695-915-11	TAB (CONTACT)				
DIODE						
D1790	8-719-991-33	DIODE	1SS133T-77			
D1791	8-719-908-03	DIODE	GP08D			
D1792	8-719-908-03	DIODE	GP08D (KV-35V68 ONLY)			
D1793	8-719-908-03	DIODE	GP08D			
D1794	8-719-908-03	DIODE	GP08D			
IC						
IC1701	8-759-562-43	IC	TDA6108JF/N1B			
JACK						
J1761	1-251-388-11	SOCKET, CRT				
COIL						
L1790	1-412-537-31	INDUCTOR	100UH			
TRANSISTOR						
Q1790	8-729-119-76	TRANSISTOR	2SA1175-HFE			
RESISTOR						
R1750	1-247-870-11	CARBON	43K	5%	1/4W	
R1763	1-260-099-11	CARBON	1K	5%	1/2W	
R1764	1-247-807-31	CARBON	100	5%	1/4W	
R1773	1-260-099-11	CARBON	1K	5%	1/2W	
R1774	1-247-807-31	CARBON	100	5%	1/4W	



Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1783	1-260-099-11	CARBON	1K 5% 1/2W	C630	1-130-471-00	MYLAR	0.001MF 5% 50V
R1784	1-247-807-31	CARBON	100 5% 1/4W	C631	1-137-605-11	FILM	0.01MF 10% 250V
R1788	1-216-349-00	METAL OXIDE	1 5% 1W F	C632	1-130-495-00	FILM	0.1MF 5% 50V
R1789	1-249-437-11	CARBON	47K 5% 1/4W	C634	1-130-467-00	MYLAR	470PF 5% 50V
R1790	1-216-378-11	METAL OXIDE	5.6 5% 2W F (KV-32V68)	C635	1-130-475-00	MYLAR	0.0022MF 5% 50V
R1790	1-216-369-00	METAL OXIDE	1 5% 2W F (KV-35V68)	C636	1-126-965-11	ELECT	22MF 20% 50V
R1792	1-247-815-91	CARBON	220 5% 1/4W	C637	1-126-942-61	ELECT	1000MF 20% 25V
R1793	1-247-866-11	CARBON	30K 5% 1/4W	C638	1-104-666-11	ELECT	220MF 20% 25V
R1794	1-260-132-11	CARBON	560K 5% 1/2W (KV-35V68 ONLY)	C639	1-128-582-11	ELECT	10MF 20% 63V
R1795	1-260-087-11	CARBON	100 5% 1/2W	C640 \triangle	1-113-924-11	CERAMIC	0.0047MF 20% 250V
R1796	1-216-378-11	METAL OXIDE	5.6 5% 2W (KV-32V68)	C641	1-128-550-11	ELECT	2200MF 20% 50V
R1796	1-216-369-00	METAL OXIDE	1 5% 2W F (KV-35V68)	C642	1-130-495-00	FILM	0.1MF 5% 50V
R1797	1-260-123-11	CARBON	100K 5% 1/2W	C643	1-107-641-11	ELECT	220MF 20% 160V
<div>G</div> <p>* A-1316-421-A G BOARD, COMPLETE (KV-32V68) * A-1316-420-A G BOARD, COMPLETE (KV-35V68)</p> <p>1-533-223-11 HOLDER, FUSE 4-382-854-11 SCREW (M3X10), P, SW (+)</p> <p>CAPACITOR</p>				C647	1-104-665-11	ELECT	100MF 20% 25V
				C650	1-104-664-11	ELECT	47MF 20% 25V
				C651	1-137-366-11	FILM	0.0022MF 5% 50V
				C652	1-106-351-00	MYLAR	0.0022MF 99% 200V
				C653	1-107-636-11	ELECT	10MF 20% 160V
				C654	1-164-625-11	CERAMIC	680PF 10% 500V
				C655	1-164-625-11	CERAMIC	680PF 10% 500V
				C656	1-164-625-11	CERAMIC	680PF 10% 500V
				C657	1-164-625-11	CERAMIC	680PF 10% 500V
				C660	1-126-767-11	ELECT	1000MF 20% 16V
				C690	1-164-645-11	CERAMIC	1000PF 10% 500V
				C691	1-164-645-11	CERAMIC	1000PF 10% 500V
				CONNECTOR			
C601	1-136-346-21	FILM	0.22MF 20% 125V (KV-35V68 ONLY)	CN601	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P (KV-35V68 ONLY)	
C602	1-126-964-11	ELECT	10MF 20% 50V	CN602	* 1-580-844-11	PIN, CONNECTOR (POWER)	
C603 \triangle	1-113-903-11	CERAMIC	0.001MF 20% 250V	CN603	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P (KV-35V68 ONLY)	
C604 \triangle	1-136-346-21	FILM	0.22MF 20% 125V	CN604	* 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P (KV-32V68 ONLY)	
C605 \triangle	1-136-346-21	FILM	0.22MF 20% 125V	CN641	* 1-564-515-11	PLUG, CONNECTOR 12P	
C606 \triangle	1-117-894-11	ELECT	560MF 20% 250V	CN643	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
C607 \triangle	1-117-894-11	ELECT	560MF 20% 250V	CN644	* 1-564-506-11	PLUG, CONNECTOR 3P	
C608	1-165-127-11	CERAMIC	470PF 10% 500V	DIODE			
C609	1-136-175-00	FILM	0.68MF 5% 50V	D600 \triangle	8-719-991-33	DIODE 1SS133T-77	
C610	1-136-175-00	FILM	0.68MF 5% 50V	D601	8-719-991-33	DIODE 1SS133T-77	
C611	1-136-171-00	FILM	0.33MF 5% 50V	D602 \triangle	8-719-510-53	DIODE D4SB60L	
C612	1-136-171-00	FILM	0.33MF 5% 50V	D603	8-719-052-90	DIODE D1NL40-TA2	
C613	1-164-646-11	CERAMIC	2200PF 10% 500V	D604	8-719-052-90	DIODE D1NL40-TA2	
C614	1-130-471-00	MYLAR	0.001MF 5% 50V	D605	8-719-110-49	DIODE RD18ESB2	
C615	1-129-722-00	FILM	0.047MF 5% 630V	D606	8-719-991-33	DIODE 1SS133T-77	
C616 \triangle	1-113-903-11	CERAMIC	0.001MF 20% 250V	D612	8-719-991-33	DIODE 1SS133T-77	
C617	1-136-169-00	FILM	0.22MF 5% 50V	D613	8-719-991-33	DIODE 1SS133T-77	
C624	1-126-961-11	ELECT	2.2MF 20% 50V	D614	8-719-991-33	DIODE 1SS133T-77	
C628 \triangle	1-113-924-11	CERAMIC	0.0047MF 20% 250V				
C629 \triangle	1-107-656-11	ELECT	100MF 20% 250V				

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REF. NO.	PART NO.	DESCRIPTION	REMARK
D621 \triangle	8-719-911-55	DIODE U05G	
D622 \triangle	8-719-911-55	DIODE U05G	
D623	8-719-948-45	DIODE ERA22-08	
D624	8-719-991-33	DIODE 1SS133T-77	
D626	8-719-109-88	DIODE RD5.6ESB1	
D627	8-719-510-48	DIODE D1N20R	
D628	8-719-018-84	DIODE D2S6M	
D629	8-719-063-70	DIODE D1NL20U	
D630	8-719-063-70	DIODE D1NL20U	
D641	8-719-052-92	DIODE D10SBS4F	
D642 \triangle	8-719-510-12	DIODE D10SC4M	
D643	8-719-028-45	DIODE D2L20U	
D644	8-719-028-45	DIODE D2L20U	
D645	8-719-028-45	DIODE D2L20U	
D646	8-719-028-45	DIODE D2L20U	
D647	8-719-063-70	DIODE D1NL20U	
D648	8-719-057-52	DIODE EZ0150AV1	
D649	8-719-510-02	DIODE D1NS4	
D650	8-719-510-02	DIODE D1NS4	
FUSE			
F601 \triangle	1-576-193-11	FUSE	6.3A/125V
FERRITE BEAD			
FB601	1-410-396-41	FERRITE	0.45UH
FB602	1-410-396-41	FERRITE	0.45UH
FB603	1-410-396-41	FERRITE	0.45UH
FB604	1-410-396-41	FERRITE	0.45UH
FB605	1-410-396-41	FERRITE	0.45UH
FB606	1-410-396-41	FERRITE	0.45UH
FB641	1-410-397-21	FERRITE	1.1UH
FB642	1-410-397-21	FERRITE	1.1UH
FB645	1-410-397-21	FERRITE	1.1UH
FB647	1-410-397-21	FERRITE	1.1UH
IC			
IC601 \triangle	8-729-041-12	TRANSISTOR MX0841AB-F	
IC622	8-759-566-35	IC MC33269T	
IC641	8-759-198-03	IC PQ09RF21	
IC643	8-749-012-13	IC DM-58	
COIL			
L641	1-412-537-31	INDUCTOR	100UH
L642	1-412-529-11	INDUCTOR	22UH
TRANSISTOR			
Q621 \triangle	8-729-044-30	TRANSISTOR 2SK2845-LB102	
Q622	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q644	8-729-119-78	TRANSISTOR 2SC2785-HFE	

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q645	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q646	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q647	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q648	8-729-922-39	TRANSISTOR 2SD2144S-V	
RESISTOR			
R603 \triangle	1-219-776-11	CARBON	2.2M 10% 1/2W
R607 \triangle	1-202-933-61	FUSIBLE	0.1 10% 1/2W F
R608 \triangle	1-216-373-11	METAL OXIDE	2.2 5% 2W F
R611 \triangle	1-216-373-11	METAL OXIDE	2.2 5% 2W F
R612	1-215-903-11	METAL OXIDE	68K 5% 2W F
R613	1-215-903-11	METAL OXIDE	68K 5% 2W F
R614	1-215-903-11	METAL OXIDE	68K 5% 2W F
R615	1-215-903-11	METAL OXIDE	68K 5% 2W F
R618	1-249-425-11	CARBON	4.7K 5% 1/4W
R619	1-249-425-11	CARBON	4.7K 5% 1/4W
R620	1-249-425-11	CARBON	4.7K 5% 1/4W
R621	1-249-429-11	CARBON	10K 5% 1/4W
R622	1-247-863-91	CARBON	22K 5% 1/4W
R623 \triangle	1-205-943-11	CEMENTED	1 5% 20W
R624	1-260-131-11	CARBON	470K 5% 1/2W
R625	1-260-131-11	CARBON	470K 5% 1/2W
R626	1-249-425-11	CARBON	4.7K 5% 1/4W
R627 \triangle	1-220-797-11	CEMENTED	0.47 5% 10W
R628	1-240-205-91	CARBON	22M 5% 1/2W
R629 \triangle	1-220-797-11	CEMENTED	0.47 5% 10W
R632	1-247-807-31	CARBON	100 5% 1/4W
R633	1-249-429-11	CARBON	10K 5% 1/4W
R634	1-249-431-11	CARBON	15K 5% 1/4W
R635	1-247-791-91	CARBON	22 5% 1/4W
R636	1-247-815-91	CARBON	220 5% 1/4W
R637	1-260-294-11	CARBON	1.5 5% 1/2W
R638	1-249-413-11	CARBON	470 5% 1/4W
R639 \triangle	1-249-383-11	CARBON	1.5 5% 1/4W F
R640	1-215-477-00	METAL	220K 1% 1/4W
R641	1-247-843-11	CARBON	3.3K 5% 1/4W
R642	1-247-843-11	CARBON	3.3K 5% 1/4W
R643	1-249-387-11	CARBON	3.3 5% 1/4W F
R644	1-215-477-00	METAL	220K 1% 1/4W
R645	1-249-389-11	CARBON	4.7 5% 1/4W F
R648	1-247-887-00	CARBON	220K 5% 1/4W
R649	1-249-425-11	CARBON	4.7K 5% 1/4W F
R650	1-215-397-00	METAL	100 1% 1/4W
R651	1-215-409-00	METAL	330 1% 1/4W
R659	1-249-429-11	CARBON	10K 5% 1/4W
R660 \triangle	1-249-393-11	CARBON	10 5% 1/4W F
R661	1-249-419-11	CARBON	1.5K 5% 1/4W F
R666 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F
R667 \triangle	1-249-377-11	CARBON	0.47 5% 1/4W F



Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK			
R668 \triangle	1-249-377-11	CARBON	0.47	5%	1/4W	F
R670 \triangle	1-249-377-11	CARBON	0.47	5%	1/4W	F
R671 \triangle	1-249-377-11	CARBON	0.47	5%	1/4W	F
R672 \triangle	1-249-377-11	CARBON	0.47	5%	1/4W	F

RELAY

RY600 \triangle	1-755-266-11	RELAY, AC POWER
RY601 \triangle	1-755-146-11	RELAY, AC POWER

TRANSFORMER

T601 \triangle	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)
T602 \triangle	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)
T603 \triangle	1-429-992-21	TRANSFORMER, CONVERTER (PRT)
T605 \triangle	1-431-467-11	TRANSFORMER, CONVERTER (PIT)
T621 \triangle	1-433-409-11	TRANSFORMER, CONVERTER

THERMISTOR

THP601 \triangle	1-809-539-11	THERMISTOR, POSITIVE
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VARISTOR

VDR601 \triangle	1-801-074-41	VARISTOR ERZV10D271
VDR602 \triangle	1-801-074-41	VARISTOR ERZV10D271



*A-1372-510-A HS BOARD (VAR), COMPLETE

CONNECTOR

CN2101	1-564-524-11	PLUG, CONNECTOR 9P
CN2102	* 1-564-523-11	PLUG, CONNECTOR 8P



* A-1372-509-A HV BOARD (VAR), COMPLETE

CAPACITOR

C2068	1-104-665-11	ELECT	100MF	20%	25V
C2070	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C2072	1-164-096-11	CERAMIC	0.01MF		50V
C2231	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2232	1-136-161-00	FILM	0.047MF	5%	50V
C2233	1-136-161-00	FILM	0.047MF	5%	50V
C2234	1-126-960-11	ELECT	1MF	20%	50V
C2235	1-126-960-11	ELECT	1MF	20%	50V

CONNECTOR

CN2002	* 1-564-518-11	PLUG, CONNECTOR 3P
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REF. NO.	PART NO.	DESCRIPTION	REMARK			
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DIODE

D2006	1-810-039-11	LED UNIT
D2231	8-719-110-17	DIODE RD10ESB2
D2232	8-719-110-17	DIODE RD10ESB2
D2233	8-719-110-17	DIODE RD10ESB2
D2236	8-719-110-17	DIODE RD10ESB2

IC

IC2003	8-742-014-11	HYB IC SBX1981-51
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JACK

J2231	1-691-110-11	JACK, PIN 3P
J2232	1-694-063-11	TERMINAL, S

RESISTOR

R2003	1-216-017-91	RES, CHIP	47	5%	1/10W
R2009	1-216-033-00	RES, CHIP	220	5%	1/10W
R2010	1-216-033-00	RES, CHIP	220	5%	1/10W
R2231	1-216-022-00	RES, CHIP	75	5%	1/10W
R2232	1-216-022-00	RES, CHIP	75	5%	1/10W
R2233	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R2235	1-216-022-00	RES, CHIP	75	5%	1/10W
R2236	1-216-113-00	RES, CHIP	470K	5%	1/10W
R2237	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R2238	1-216-113-00	RES, CHIP	470K	5%	1/10W
R2239	1-216-065-91	RES, CHIP	4.7K	5%	1/10W



* A-1380-585-A K BOARD, COMPLETE

CAPACITOR

C1461	1-126-960-11	ELECT	1MF	20%	50V
C1462	1-126-960-11	ELECT	1MF	20%	50V
C1463	1-126-961-11	ELECT	2.2MF	20%	50V
C1464	1-104-666-11	ELECT	220MF	20%	25V
C1465	1-126-960-11	ELECT	1MF	20%	50V
C1467	1-104-664-11	ELECT	47MF	20%	25V
C1468	1-126-960-11	ELECT	1MF	20%	50V
C1470	1-104-666-11	ELECT	220MF	20%	25V
C1471	1-136-169-00	FILM	0.22MF	5%	50V
C1472	1-137-194-81	FILM	0.47MF	5%	50V
C1473	1-128-550-11	ELECT	2200MF	20%	50V
C1474	1-136-169-00	FILM	0.22MF	5%	50V
C1475	1-128-550-11	ELECT	2200MF	20%	50V
C1476	1-128-550-11	ELECT	2200MF	20%	50V
C1477	1-104-665-11	ELECT	100MF	20%	25V
C1478	1-126-969-11	ELECT	220MF	20%	50V

Note:

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Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK
CONNECTOR			
CN1461	*1-564-508-11	PLUG, CONNECTOR 5P	
CN1462	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1463	*1-564-508-11	PLUG, CONNECTOR 5P	
DIODE			
D1461	8-719-991-33	DIODE 1SS133T-77	
D1462	8-719-979-50	DIODE EGP30D	
D1463	8-719-991-33	DIODE 1SS133T-77	
D1464	8-719-991-33	DIODE 1SS133T-77	
D1465	8-719-991-33	DIODE 1SS133T-77	
D1466	8-719-979-50	DIODE EGP30D	
D1467	8-719-979-50	DIODE EGP30D	
IC			
IC1461	8-759-089-13	IC TDA7262	
IC LINK			
PS1461	\triangle 1-532-984-11	IC LINK, 2A/90V	
TRANSISTOR			
Q1461	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1462	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1463	8-729-900-53	TRANSISTOR DTC114EK	
Q1464	8-729-900-53	TRANSISTOR DTC114EK	
Q1465	8-729-216-22	TRANSISTOR 2SA1162-G	
RESISTOR			
R1461	1-216-061-00	RES, CHIP 3.3K 5% 1/10W	
R1462	1-216-073-00	RES, CHIP 10K 5% 1/10W	
R1464	1-216-061-00	RES, CHIP 3.3K 5% 1/10W	
R1465	1-216-065-91	RES, CHIP 4.7K 5% 1/10W	
R1466	1-216-089-91	RES, CHIP 47K 5% 1/10W	
R1467	1-216-073-00	RES, CHIP 10K 5% 1/10W	
R1469	1-249-385-11	CARBON 2.2 5% 1/4W F	
R1470	1-249-385-11	CARBON 2.2 5% 1/4W F	
R1471	1-216-089-91	RES, CHIP 47K 5% 1/10W	
R1472	1-216-041-00	RES, CHIP 470 5% 1/10W	
R1473	1-216-113-00	RES, CHIP 470K 5% 1/10W	
R1474	1-216-077-00	RES, CHIP 15K 5% 1/10W	
R1475	1-216-077-00	RES, CHIP 15K 5% 1/10W	
R1476	1-247-791-91	CARBON 22 5% 1/4W	
R1477	1-249-417-11	CARBON 1K 5% 1/4W F	
R1478	1-247-791-91	CARBON 22 5% 1/4W	
R1479	1-249-417-11	CARBON 1K 5% 1/4W F	
R1480	1-249-421-11	CARBON 2.2K 5% 1/4W	
R1481	1-249-421-11	CARBON 2.2K 5% 1/4W	
R1482	1-216-073-00	RES, CHIP 10K 5% 1/10W	

REF. NO.	PART NO.	DESCRIPTION	REMARK
R1483	1-216-073-00	RES, CHIP 10K 5% 1/10W	
R1487	1-216-025-91	RES, CHIP 100 5% 1/10W	
R1488	1-216-073-00	RES, CHIP 10K 5% 1/10W	
KG			
* A-1385-188-A KG BOARD, COMPLETE			
CAPACITOR			
C801	1-126-960-11	ELECT 1MF 20% 50V	
C802	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C803	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C804	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
C805	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C806	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C807	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C808	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C810	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C816	1-104-665-11	ELECT 100MF 20% 10V	
C818	1-163-021-91	CERAMIC CHIP 0.01MF 10% 50V	
C819	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C820	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C821	1-126-964-11	ELECT 10MF 20% 50V	
C822	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C830	1-104-664-11	ELECT 47MF 20% 16V	
C831	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C832	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C833	1-104-664-11	ELECT 47MF 20% 16V	
C834	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C835	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C836	1-104-664-11	ELECT 47MF 20% 16V	
C837	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C838	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C839	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C840	1-104-664-11	ELECT 47MF 20% 16V	
C841	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C843	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C844	1-104-664-11	ELECT 47MF 20% 16V	
C850	1-104-664-11	ELECT 47MF 20% 16V	
C851	1-126-767-11	ELECT 1000MF 20% 16V	
C887	1-104-664-11	ELECT 47MF 20% 16V	
C888	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C889	1-126-968-11	ELECT 100MF 20% 50V	
C890	1-126-960-11	ELECT 1MF 20% 50V	
C895	1-125-507-11	CAPACITOR 0.22F 5.5V	
C896	1-104-664-11	ELECT 47MF 20% 16V	
C897	1-165-319-11	CERAMIC CHIP 0.1MF 50V	
C8051	1-164-222-11	CERAMIC CHIP 0.22MF 5% 25V	



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<u>CONNECTOR</u>				R820	1-216-061-00	RES, CHIP	3.3K 5% 1/10W
CN801	* 1-564-507-11	PLUG, CONNECTOR 4P		R822	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
CN802	* 1-564-507-11	PLUG, CONNECTOR 4P		R823	1-216-037-00	RES, CHIP	330 5% 1/10W
CN803	* 1-564-512-11	PLUG, CONNECTOR 9P		R824	1-216-049-91	RES, CHIP	1K 5% 1/10W
CN804	* 1-564-505-11	PLUG, CONNECTOR 2P		R825	1-216-121-91	RES, CHIP	1M 5% 1/10W
<u>DIODE</u>				R826	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
D802	8-719-404-50	DIODE MA111-TX		R834	1-216-025-91	RES, CHIP	100 5% 1/10W
D803	8-719-510-02	DIODE D1NS4		R835	1-216-025-91	RES, CHIP	100 5% 1/10W
D804	8-719-110-17	DIODE RD10ESB2		R878	1-216-295-91	SHORT	
D805	8-719-110-17	DIODE RD10ESB2		R8001	1-216-097-91	RES, CHIP	100K 5% 1/10W
<u>IC</u>				R8002	1-216-097-91	RES, CHIP	100K 5% 1/10W
IC801	8-759-535-81	IC LC27016B-MF2		R8003	1-216-097-91	RES, CHIP	100K 5% 1/10W
IC802	8-759-546-20	IC MX23C2000PC-12		R8004	1-216-097-91	RES, CHIP	100K 5% 1/10W
IC803	8-759-557-47	IC V53C16258SHK-50		R8005	1-216-097-91	RES, CHIP	100K 5% 1/10W
IC805	8-759-546-18	IC S-80748AL-EC-X		R8006	1-216-097-91	RES, CHIP	100K 5% 1/10W
IC806	8-759-009-51	IC MC14538BF		R8007	1-216-097-91	RES, CHIP	100K 5% 1/10W
<u>COIL</u>				R8008	1-216-097-91	RES, CHIP	100K 5% 1/10W
L801	1-412-537-31	INDUCTOR 100UH		R8009	1-216-097-91	RES, CHIP	100K 5% 1/10W
<u>TRANSISTOR</u>				R8010	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q801	8-729-216-22	TRANSISTOR 2SA1162-G		R8011	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q802	8-729-216-22	TRANSISTOR 2SA1162-G		R8012	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q803	8-729-216-22	TRANSISTOR 2SA1162-G		R8013	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q804	8-729-422-27	TRANSISTOR 2SD601A-Q		R8014	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q805	8-729-216-22	TRANSISTOR 2SA1162-G		R8015	1-216-097-91	RES, CHIP	100K 5% 1/10W
Q830	8-729-422-27	TRANSISTOR 2SD601A-Q		R8016	1-216-097-91	RES, CHIP	100K 5% 1/10W
<u>RESISTOR</u>				R8017	1-216-097-91	RES, CHIP	100K 5% 1/10W
R801	1-216-295-91	SHORT		R8018	1-216-097-91	RES, CHIP	100K 5% 1/10W
R802	1-216-047-91	RES, CHIP	820 5% 1/10W	R8019	1-216-097-91	RES, CHIP	100K 5% 1/10W
R803	1-216-069-00	RES, CHIP	6.8K 5% 1/10W	R8020	1-216-097-91	RES, CHIP	100K 5% 1/10W
R804	1-216-105-91	RES, CHIP	220K 5% 1/10W	R8021	1-216-097-91	RES, CHIP	100K 5% 1/10W
R806	1-216-043-91	RES, CHIP	560 5% 1/10W	R8022	1-216-097-91	RES, CHIP	100K 5% 1/10W
R807	1-216-081-00	RES, CHIP	22K 5% 1/10W	R8023	1-216-097-91	RES, CHIP	100K 5% 1/10W
R808	1-216-089-91	RES, CHIP	47K 5% 1/10W	R8024	1-216-097-91	RES, CHIP	100K 5% 1/10W
R809	1-216-065-91	RES, CHIP	4.7K 5% 1/10W	R8025	1-216-097-91	RES, CHIP	100K 5% 1/10W
R810	1-216-097-91	RES, CHIP	100K 5% 1/10W	R8026	1-216-097-91	RES, CHIP	100K 5% 1/10W
R811	1-216-192-00	RES, CHIP	560 5% 1/8W	R8027	1-216-097-91	RES, CHIP	100K 5% 1/10W
R812	1-216-009-91	RES, CHIP	22 5% 1/10W	R8028	1-216-073-00	RES, CHIP	10K 5% 1/10W
R813	1-216-035-00	RES, CHIP	270 5% 1/10W	R8030	1-216-295-91	SHORT	
R814	1-216-019-00	RES, CHIP	56 5% 1/10W	R8032	1-216-073-00	RES, CHIP	10K 5% 1/10W
R815	1-216-053-00	RES, CHIP	1.5K 5% 1/10W	R8033	1-216-073-00	RES, CHIP	10K 5% 1/10W
R816	1-216-075-00	RES, CHIP	12K 5% 1/10W	R8034	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
R817	1-216-069-00	RES, CHIP	6.8K 5% 1/10W	R8035	1-216-304-11	RES, CHIP	3.3 5% 1/10W
R818	1-216-065-91	RES, CHIP	4.7K 5% 1/10W	R8037	1-216-025-91	RES, CHIP	100 5% 1/10W
R819	1-216-083-00	RES, CHIP	27K 5% 1/10W	R8038	1-216-025-91	RES, CHIP	100 5% 1/10W
				R8039	1-216-025-91	RES, CHIP	100 5% 1/10W
				R8040	1-216-025-91	RES, CHIP	100 5% 1/10W
				R8041	1-216-029-00	RES, CHIP	150 5% 1/10W
				R8042	1-216-025-91	RES, CHIP	100 5% 1/10W
				R8043	1-216-049-91	RES, CHIP	1K 5% 1/10W



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R8044	1-216-083-00	RES, CHIP 27K	5% 1/10W	C3361	1-163-038-91	CERAMIC CHIP 0.1MF	25V
R8045	1-216-033-00	RES, CHIP 220	5% 1/10W	C3362	1-126-925-11	ELECT 470MF	20% 10V
R8046	1-216-033-00	RES, CHIP 220	5% 1/10W	C3363	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R8047	1-216-057-00	RES, CHIP 2.2K	5% 1/10W	C3364	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
R8051	1-216-067-00	RES, CHIP 5.6K	5% 1/10W	C3365	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
R8061	1-216-025-91	RES, CHIP 100	5% 1/10W	C3366	1-164-005-11	CERAMIC CHIP 0.47MF	25V
R8062	1-216-025-91	RES, CHIP 100	5% 1/10W	C3367	1-126-963-11	ELECT 4.7MF	20% 50V
R8063	1-216-025-91	RES, CHIP 100	5% 1/10W	C3368	1-164-005-11	CERAMIC CHIP 0.47MF	25V
R8064	1-216-025-91	RES, CHIP 100	5% 1/10W	C3369	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
<u>CRYSTAL</u>				C3370	1-164-346-11	CERAMIC CHIP 1MF	16V
X801	1-781-072-11	CRYSTAL, VIBRATOR		C3371	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
P				C3372	1-164-005-11	CERAMIC CHIP 0.47MF	25V
* A-1195-138-A P BOARD, COMPLETE				<u>CONNECTOR</u>			
<u>CAPACITOR</u>				CN3301	1-573-301-21	CONNECTOR, BOARD TO BOARD	20P
C3319	1-163-031-11	CERAMIC CHIP 0.01MF	50V	<u>IC</u>			
C3320	1-126-960-11	ELECT 1MF	20% 50V	IC3302	8-759-231-53	IC TA7805S	
C3321	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	IC3303	8-759-533-89	IC SDA9288XE-GEG-B121	
C3322	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	IC3304	8-752-086-80	IC CXA2019AQ-T4	
C3323	1-163-031-11	CERAMIC CHIP 0.01MF	50V	<u>COIL</u>			
C3324	1-104-664-11	ELECT 47MF	20% 16V	L3301	1-408-607-31	INDUCTOR 22UH	
C3328	1-104-664-11	ELECT 47MF	20% 16V	L3302	1-410-473-11	INDUCTOR 18UH	
C3329	1-104-664-11	ELECT 47MF	20% 16V	L3303	1-408-612-31	INDUCTOR 56UH	
C3330	1-163-031-11	CERAMIC CHIP 0.01MF	50V	<u>TRANSISTOR</u>			
C3331	1-104-664-11	ELECT 47MF	20% 16V	Q3301	8-729-422-27	TRANSISTOR 2SD601A-Q	
C3332	1-104-664-11	ELECT 47MF	20% 25V	Q3302	8-729-216-22	TRANSISTOR 2SA1162-G	
C3334	1-163-031-11	CERAMIC CHIP 0.01MF	50V	Q3306	8-729-216-22	TRANSISTOR 2SA1162-G	
C3335	1-163-038-91	CERAMIC CHIP 0.1MF	25V	Q3310	8-729-422-27	TRANSISTOR 2SD601A-Q	
C3336	1-163-038-91	CERAMIC CHIP 0.1MF	25V	Q3312	8-729-216-22	TRANSISTOR 2SA1162-G	
C3337	1-164-005-11	CERAMIC CHIP 0.47MF	25V	Q3314	8-729-216-22	TRANSISTOR 2SA1162-G	
C3340	1-163-031-11	CERAMIC CHIP 0.01MF	50V	<u>RESISTOR</u>			
C3346	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	R3301	1-216-295-91	SHORT	
C3347	1-126-960-11	ELECT 1MF	20% 50V	R3302	1-216-295-91	SHORT	
C3348	1-104-664-11	ELECT 47MF	20% 16V	R3305	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
C3349	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	R3312	1-216-037-00	RES, CHIP 330	5% 1/10W
C3350	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3313	1-216-295-91	SHORT	
C3352	1-163-031-11	CERAMIC CHIP 0.01MF	50V	R3314	1-216-049-91	RES, CHIP 1K	5% 1/10W
C3353	1-164-346-11	CERAMIC CHIP 1MF	16V	R3323	1-216-065-91	RES, CHIP 4.7K	5% 1/10W
C3354	1-163-031-11	CERAMIC CHIP 0.01MF	50V	R3329	1-216-069-00	RES, CHIP 6.8K	5% 1/10W
C3355	1-126-925-11	ELECT 470MF	20% 10V	R3330	1-216-295-91	SHORT	
C3356	1-163-038-91	CERAMIC CHIP 0.1MF	25V	R3337	1-216-033-00	RES, CHIP 220	5% 1/10W
C3357	1-163-038-91	CERAMIC CHIP 0.1MF	25V	R3338	1-216-033-00	RES, CHIP 220	5% 1/10W
C3358	1-163-038-91	CERAMIC CHIP 0.1MF	25V	R3339	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
C3359	1-163-038-91	CERAMIC CHIP 0.1MF	25V	R3340	1-216-041-00	RES, CHIP 470	5% 1/10W
C3360	1-163-038-91	CERAMIC CHIP 0.1MF	25V				



REF. NO.	PART NO.	DESCRIPTION	REMARK				REF. NO.	PART NO.	DESCRIPTION	REMARK			
R3341	1-216-057-00	RES, CHIP	2.2K	5%	1/10W		C155	1-126-963-11	ELECT	4.7MF	20%	50V	
R3342	1-216-057-00	RES, CHIP	2.2K	5%	1/10W		C156	1-126-963-11	ELECT	4.7MF	20%	50V	
R3343	1-216-049-91	RES, CHIP	1K	5%	1/10W		C158	1-126-963-11	ELECT	4.7MF	20%	50V	
R3346	1-216-049-91	RES, CHIP	1K	5%	1/10W		C160	1-126-964-11	ELECT	10MF	20%	50V	
R3351	1-216-295-91	SHORT					C161	1-126-956-91	ELECT	0.1MF	20%	50V	
R3352	1-216-049-91	RES, CHIP	1K	5%	1/10W		C162	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
R3358	1-216-047-91	RES, CHIP	820	5%	1/10W		C163	1-104-664-11	ELECT	47MF	20%	25V	
R3359	1-216-047-91	RES, CHIP	820	5%	1/10W		C164	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
R3360	1-216-053-00	RES, CHIP	1.5K	5%	1/10W		C165	1-126-964-11	ELECT	10MF	20%	50V	
R3361	1-216-053-00	RES, CHIP	1.5K	5%	1/10W		C168	1-126-963-11	ELECT	4.7MF	20%	50V	
R3362	1-216-041-00	RES, CHIP	470	5%	1/10W		C171	1-126-941-11	ELECT	470MF	20%	25V	
R3363	1-216-041-00	RES, CHIP	470	5%	1/10W		C172	1-126-959-11	ELECT	0.47MF	20%	50V	
R3364	1-216-041-00	RES, CHIP	470	5%	1/10W		C173	1-126-959-11	ELECT	0.47MF	20%	50V	
R3375	1-216-041-00	RES, CHIP	470	5%	1/10W		C174	1-126-964-11	ELECT	10MF	20%	50V	
R3376	1-216-071-00	RES, CHIP	8.2K	5%	1/10W		C176	1-126-964-11	ELECT	10MF	20%	50V	
R3377	1-216-073-00	RES, CHIP	10K	5%	1/10W		C177	1-126-964-11	ELECT	10MF	20%	50V	
R3378	1-216-655-11	RES, CHIP	1.5K	0.50%	1/10W		C178	1-126-964-11	ELECT	10MF	20%	50V	
R3379	1-216-077-00	RES, CHIP	15K	5%	1/10W		C179	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
R3380	1-216-025-91	RES, CHIP	100	5%	1/10W		C180	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
R3381	1-216-025-91	RES, CHIP	100	5%	1/10W		C181	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
R3382	1-216-057-00	RES, CHIP	2.2K	5%	1/10W		C182	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
R3383	1-216-025-91	RES, CHIP	100	5%	1/10W		C183	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3384	1-216-033-00	RES, CHIP	220	5%	1/10W		C184	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3385	1-216-109-00	RES, CHIP	330K	5%	1/10W		C185	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3386	1-216-295-91	SHORT					C187	1-126-964-11	ELECT	10MF	20%	50V	
R3387	1-216-295-91	SHORT					C188	1-126-956-91	ELECT	0.1MF	20%	50V	
R3388	1-216-295-91	SHORT					C189	1-126-956-91	ELECT	0.1MF	20%	50V	
R3393	1-216-025-91	RES, CHIP	100	5%	1/10W		C190	1-163-986-00	CERAMIC CHIP	0.027MF	10%	25V	
R3394	1-216-025-91	RES, CHIP	100	5%	1/10W		C191	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
R3395	1-216-061-00	RES, CHIP	3.3K	5%	1/10W		C192	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
CRYSTAL							C193	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
X3302	1-760-095-21	VIBRATOR, CRYSTAL					C194	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V	
X3303	1-577-611-11	OSCILATOR, CERAMIC					C195	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
X3304	1-567-505-11	OSCILLATOR, CRYSTAL					C196	1-126-965-11	ELECT	22MF	20%	50V	
							C197	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
							C198	1-126-960-11	ELECT	1MF	20%	50V	
							C199	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
							C231	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
							C232	1-136-161-00	FILM	0.047MF	5%	50V	
							C233	1-136-161-00	FILM	0.047MF	5%	50V	
							C234	1-126-960-11	ELECT	1MF	20%	50V	
							C235	1-126-960-11	ELECT	1MF	20%	50V	
							C236	1-136-161-00	FILM	0.047MF	5%	50V	
							C237	1-126-960-11	ELECT	1MF	20%	50V	
							C238	1-126-960-11	ELECT	1MF	20%	50V	
							C241	1-126-941-11	ELECT	470MF	20%	25V	
							C242	1-126-959-11	ELECT	0.47MF	20%	50V	
							C244	1-126-959-11	ELECT	0.47MF	20%	50V	
							C245	1-126-941-11	ELECT	470MF	20%	25V	
							C246	1-126-959-11	ELECT	0.47MF	20%	50V	
C100	1-164-346-11	CERAMIC CHIP	1MF		16V								
C101	1-165-319-11	CERAMIC CHIP	0.1MF		50V								
C102	1-164-346-11	CERAMIC CHIP	1MF		16V								
C103	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V								
C104	1-164-005-11	CERAMIC CHIP	0.47MF		25V								
C105	1-164-005-11	CERAMIC CHIP	0.47MF		25V								
C150	1-126-956-91	ELECT	0.1MF	20%	50V								
C153	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V								
C154	1-126-963-11	ELECT	4.7MF	20%	50V								

CRYSTAL

X3302	1-760-095-21	VIBRATOR, CRYSTAL
X3303	1-577-611-11	OSCILATOR, CERAMIC
X3304	1-567-505-11	OSCILLATOR, CRYSTAL



* A-1394-923-A UV BOARD, COMPLETE

CAPACITOR

C100	1-164-346-11	CERAMIC CHIP	1MF		16V
C101	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C102	1-164-346-11	CERAMIC CHIP	1MF		16V
C103	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C104	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C105	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C150	1-126-956-91	ELECT	0.1MF	20%	50V
C153	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C154	1-126-963-11	ELECT	4.7MF	20%	50V



REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
C247	1-126-959-11	ELECT	0.47MF	20%	50V	<u>JACK</u>					
C261	1-136-161-00	FILM	0.047MF	5%	50V	J231	1-750-515-11	TERMINAL BLOCK, S 3P			
C262	1-104-664-11	ELECT	47MF	20%	25V	J232	1-750-517-11	JACK BLOCK, PIN 3P			
C263	1-136-161-00	FILM	0.047MF	5%	50V	J233	1-750-516-11	JACK BLOCK, PIN 2P			
C264	1-126-941-11	ELECT	470MF	20%	25V	J234	1-750-517-11	JACK BLOCK, PIN 3P			
						J235	1-750-517-11	JACK BLOCK, PIN 3P			
C266	1-126-960-11	ELECT	1MF	20%	50V	J901	1-764-143-11	JACK BLOCK, 3P			
C267	1-126-960-11	ELECT	1MF	20%	50V	J902	1-764-143-11	JACK BLOCK, 3P			
C270	1-126-960-11	ELECT	1MF	20%	50V	J903	1-764-143-11	JACK BLOCK, 3P			
C271	1-126-960-11	ELECT	1MF	20%	50V	J904	1-764-143-11	JACK BLOCK, 3P			
C275	1-104-664-11	ELECT	47MF	20%	25V						
C276	1-163-251-11	CERAMIC CHIP	100PF	5%	50V						
<u>CONNECTOR</u>						<u>CHIIP CONDUCTOR</u>					
CN261	* 1-691-632-21	CONNECTOR, BOARD TO BOARD	15P			JR106	1-216-295-91	SHORT			
CN262	1-573-301-21	CONNECTOR, BOARD TO BOARD	20P			JR107	1-216-295-91	SHORT			
CN263	* 1-564-506-11	PLUG, CONNECTOR	3P			JR112	1-216-295-91	SHORT			
CN264	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P			JR201	1-216-295-91	SHORT			
CN265	* 1-564-508-11	PLUG, CONNECTOR	5P			JR204	1-216-295-91	SHORT			
CN1804	* 1-564-505-11	PLUG, CONNECTOR	2P			JR205	1-216-295-91	SHORT			
						JR269	1-216-295-91	SHORT			
						JR270	1-216-295-91	SHORT			
						JR272	1-216-295-91	SHORT			
						JR273	1-216-295-91	SHORT			
						JR274	1-216-295-91	SHORT			
						JR276	1-216-295-91	SHORT			
						JR901	1-216-295-91	SHORT			
						JR902	1-216-295-91	SHORT			
						JR903	1-216-295-91	SHORT			
						<u>JUMPER WIRE</u>					
						JW226	1-249-389-11	CARBON	4.7	5%	1/4W
						<u>TRANSISTOR</u>					
						Q100	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q101	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q231	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q232	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q233	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q234	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q235	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q236	8-729-422-27	TRANSISTOR	2SD601A-Q		
						Q237	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q238	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q239	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q240	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q241	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q242	8-729-216-22	TRANSISTOR	2SA1162-G		
						Q243	8-729-216-22	TRANSISTOR	2SA1162-G		
<u>IC</u>											
IC100	8-752-072-39	IC CXA2021S									
IC101	8-759-100-96	IC UPC4558G2									
IC102	8-759-537-25	IC NJM2150M-TE2									
IC103	8-759-537-26	IC TDA7467D013TR									
IC261	8-759-534-81	IC MM1313AD/									



REF. NO.	PART NO.	DESCRIPTION	REMARK				REF. NO.	PART NO.	DESCRIPTION	REMARK			
Q261	8-729-422-27	TRANSISTOR 2SD601A-Q					R209	1-216-069-00	RES, CHIP 6.8K	5%		1/10W	
Q262	8-729-422-27	TRANSISTOR 2SD601A-Q					R210	1-216-069-00	RES, CHIP 6.8K	5%		1/10W	
Q263	8-729-216-22	TRANSISTOR 2SA1162-G					R212	1-249-440-11	CARBON 82K	5%		1/4W	
Q265	8-729-216-22	TRANSISTOR 2SA1162-G					R213	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
							R214	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
		RESISTOR											
R100	1-216-033-00	RES, CHIP 220	5%			1/10W	R215	1-249-413-11	CARBON 470	5%		1/4W	
R101	1-216-033-00	RES, CHIP 220	5%			1/10W	R216	1-216-025-91	RES, CHIP 100	5%		1/10W	
R102	1-216-073-00	RES, CHIP 10K	5%			1/10W	R217	1-216-025-91	RES, CHIP 100	5%		1/10W	
R103	1-216-085-00	RES, CHIP 33K	5%			1/10W	R218	1-216-025-91	RES, CHIP 100	5%		1/10W	
R104	1-216-089-91	RES, CHIP 47K	5%			1/10W	R219	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R105	1-216-089-91	RES, CHIP 47K	5%			1/10W	R220	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R106	1-216-049-91	RES, CHIP 1K	5%			1/10W	R221	1-249-413-11	CARBON 470	5%		1/4W	
R107	1-216-049-91	RES, CHIP 1K	5%			1/10W	R222	1-216-025-91	RES, CHIP 100	5%		1/10W	
R108	1-216-073-00	RES, CHIP 10K	5%			1/10W	R223	1-216-025-91	RES, CHIP 100	5%		1/10W	
R109	1-216-089-91	RES, CHIP 47K	5%			1/10W	R224	1-216-025-91	RES, CHIP 100	5%		1/10W	
R110	1-216-089-91	RES, CHIP 47K	5%			1/10W	R225	1-247-815-91	CARBON 220	5%		1/4W	
R111	1-216-025-91	RES, CHIP 100	5%			1/10W	R226	1-247-815-91	CARBON 220	5%		1/4W	
R112	1-216-121-91	RES, CHIP 1M	5%			1/10W	R227	1-249-440-11	CARBON 82K	5%		1/4W	
R113	1-216-081-00	RES, CHIP 22K	5%			1/10W	R228	1-216-033-00	RES, CHIP 220	5%		1/10W	
R114	1-216-081-00	RES, CHIP 22K	5%			1/10W	R229	1-216-025-91	RES, CHIP 100	5%		1/10W	
R115	1-216-081-00	RES, CHIP 22K	5%			1/10W	R230	1-216-033-00	RES, CHIP 220	5%		1/10W	
R116	1-216-081-00	RES, CHIP 22K	5%			1/10W	R231	1-216-022-00	RES, CHIP 75	5%		1/10W	
R117	1-216-073-00	RES, CHIP 10K	5%			1/10W	R232	1-216-022-00	RES, CHIP 75	5%		1/10W	
R118	1-216-073-00	RES, CHIP 10K	5%			1/10W	R233	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R119	1-216-073-00	RES, CHIP 10K	5%			1/10W	R234	1-216-022-00	RES, CHIP 75	5%		1/10W	
R124	1-216-033-00	RES, CHIP 220	5%			1/10W	R235	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R125	1-216-033-00	RES, CHIP 220	5%			1/10W	R236	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R126	1-216-063-91	RES, CHIP 3.9K	5%			1/10W	R237	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R127	1-216-089-91	RES, CHIP 47K	5%			1/10W	R238	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R128	1-216-085-00	RES, CHIP 33K	5%			1/10W	R239	1-216-022-00	RES, CHIP 75	5%		1/10W	
R129	1-216-053-00	RES, CHIP 1.5K	5%			1/10W	R240	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R130	1-216-100-00	RES, CHIP 130K	5%			1/10W	R241	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R131	1-216-049-91	RES, CHIP 1K	5%			1/10W	R242	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R132	1-216-088-00	RES, CHIP 43K	5%			1/10W	R243	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	
R133	1-216-061-00	RES, CHIP 3.3K	5%			1/10W	R244	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R134	1-216-061-00	RES, CHIP 3.3K	5%			1/10W	R245	1-249-417-11	CARBON 1K	5%		1/4W	
R135	1-216-097-91	RES, CHIP 100K	5%			1/10W	R246	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R136	1-216-085-00	RES, CHIP 33K	5%			1/10W	R247	1-249-417-11	CARBON 1K	5%		1/4W	
R137	1-216-025-91	RES, CHIP 100	5%			1/10W	R248	1-216-021-00	RES, CHIP 68	5%		1/10W	
R141	1-216-295-91	SHORT					R249	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R142	1-216-295-91	SHORT					R250	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R201	1-216-065-91	RES, CHIP 4.7K	5%			1/10W	R251	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R202	1-216-049-91	RES, CHIP 1K	5%			1/10W	R252	1-216-019-00	RES, CHIP 56	5%		1/10W	
R203	1-216-069-00	RES, CHIP 6.8K	5%			1/10W	R253	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R204	1-216-069-00	RES, CHIP 6.8K	5%			1/10W	R254	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R206	1-216-049-91	RES, CHIP 1K	5%			1/10W	R255	1-216-113-00	RES, CHIP 470K	5%		1/10W	
R207	1-216-295-91	SHORT					R256	1-216-069-00	RES, CHIP 6.8K	5%		1/10W	
R208	1-216-049-91	RES, CHIP 1K	5%			1/10W	R258	1-216-069-00	RES, CHIP 6.8K	5%		1/10W	
							R259	1-216-065-91	RES, CHIP 4.7K	5%		1/10W	



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R260	1-247-807-31	CARBON	100 5% 1/4W	C946	1-126-933-11	ELECT 100MF 20% 16V	
R261	1-216-009-91	RES, CHIP	22 5% 1/10W	C949	1-161-830-00	CERAMIC 0.0047MF 500V	
R264	1-247-815-91	CARBON	220 5% 1/4W	C950	1-126-933-11	ELECT 100MF 20% 16V	
R265	1-247-815-91	CARBON	220 5% 1/4W	C951	1-107-638-11	ELECT 33MF 20% 160V	
R266	1-216-295-91	SHORT		C952	1-104-999-11	MYLAR 0.1MF 10% 200V	
R267	1-249-415-11	CARBON	680 5% 1/4W	C953	1-106-383-00	MYLAR 0.047MF 10% 200V	
R268	1-216-025-91	RES, CHIP	100 5% 1/10W	C954	1-130-471-00	FILM 0.001MF 5% 50V	
R269	1-216-025-91	RES, CHIP	100 5% 1/10W	C955	1-107-667-11	ELECT 2.2MF 20% 160V	
R270	1-216-041-00	RES, CHIP	470 5% 1/10W	C956	1-130-471-00	FILM 0.001MF 5% 50V	
R271	1-249-415-11	CARBON	680 5% 1/4W	C957	1-106-383-00	MYLAR 0.047MF 10% 200V	
R272	1-249-417-11	CARBON	1K 5% 1/4W	C958	1-126-933-11	ELECT 100MF 20% 16V	
R274	1-249-413-11	CARBON	470 5% 1/4W	C961	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
R275	1-249-425-11	CARBON	4.7K 5% 1/4W	C962	1-163-021-91	CERAMIC CHIP 0.01MF 10% 50V	
R276	1-249-425-11	CARBON	4.7K 5% 1/4W	C965	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
R277	1-216-049-91	RES, CHIP	1K 5% 1/10W	C966	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
R278	1-249-413-11	CARBON	470 5% 1/4W	C967	1-129-718-00	FILM 0.022MF 5% 630V	
R279	1-216-025-91	RES, CHIP	100 5% 1/10W	C968	1-137-579-11	FILM 0.068MF 5% 100V	
R280	1-216-033-00	RES, CHIP	220 5% 1/10W	C969	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
R281	1-216-033-00	RES, CHIP	220 5% 1/10W	C981	1-126-941-11	ELECT 470MF 20% 25V	
R282	1-216-025-91	RES, CHIP	100 5% 1/10W	C983	1-137-366-11	FILM 0.0022MF 5% 50V	
R283	1-216-025-91	RES, CHIP	100 5% 1/10W	CONNECTOR			
R284	1-216-065-91	RES, CHIP	4.7K 5% 1/10W	CN941	* 1-564-511-11	PLUG, CONNECTOR 8P	
R285	1-216-065-91	RES, CHIP	4.7K 5% 1/10W	CN961	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P	
R286	1-216-049-91	RES, CHIP	1K 5% 1/10W	CN981	* 1-564-506-11	PLUG, CONNECTOR 3P	
R288	1-247-815-91	CARBON	220 5% 1/4W	DIODE			
R289	1-247-815-91	CARBON	220 5% 1/4W	D941	8-719-991-33	DIODE 1SS133T-77	
R290	1-247-815-91	CARBON	220 5% 1/4W	D946	8-719-110-88	DIODE RD39ESB2	
R291	1-216-025-91	RES, CHIP	100 5% 1/10W	D947	8-719-110-88	DIODE RD39ESB2	
R293	1-216-025-91	RES, CHIP	100 5% 1/10W	D961	8-719-109-89	DIODE RD5.6ESB2	
R294	1-216-049-91	RES, CHIP	1K 5% 1/10W	D962	8-719-991-33	DIODE 1SS133T-77	
R901	1-249-405-11	CARBON	100 5% 1/4W F	D964	8-719-302-43	DIODE EL1Z	
R902	1-249-405-11	CARBON	100 5% 1/4W F	IC			
R919	1-216-295-91	SHORT		IC961	8-759-700-07	IC NJM2903M	
R920	1-249-405-11	CARBON	100 5% 1/4W F	IC981	8-759-603-37	IC M5216P	
R921	1-249-405-11	CARBON	100 5% 1/4W F	JUMPER WIRE			
R922	1-216-049-91	RES, CHIP	1K 5% 1/10W	JW919	1-136-165-00	FILM 0.1MF 5% 50V	
R923	1-216-049-91	RES, CHIP	1K 5% 1/10W	COIL			
R924	1-216-049-91	RES, CHIP	1K 5% 1/10W	L942	1-215-863-11	METAL OXIDE 100 5% 1W F	
<div>WA</div> <p>* A-1372-462-A WA BOARD, COMPLETE (KV-35V68 ONLY)</p> <p>4-382-854-11 SCREW (M3X10), P, SW (+)</p> <p>CAPACITOR</p> <p>C941 1-126-935-11 ELECT 470MF 20% 16V</p> <p>C944 1-163-021-91 CERAMIC CHIP 0.01MF 10% 50V</p> <p>C945 1-163-001-11 CERAMIC CHIP 220PF 10% 50V</p>				L962	1-406-989-21	INDUCTOR 10MMH	
				L963	1-406-675-11	INDUCTOR 4.7MMH	
				TRANSISTOR			
				Q943	8-729-422-27	TRANSISTOR 2SD601A-Q	
				Q944	8-729-422-27	TRANSISTOR 2SD601A-Q	



Note: The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q945	8-729-422-27	TRANSISTOR 2SD601A-Q		R1941	1-260-311-51	CARBON 39 5%	1/2W
Q946	8-729-017-05	TRANSISTOR 2SA1837		R1942	1-249-384-11	CARBON 1.8 5%	1/4W F
Q947	8-729-017-06	TRANSISTOR 2SC4793		R1943	1-249-414-11	CARBON 560 5%	1/4W F
Q962	8-729-931-45	TRANSISTOR IRF614		R1944	1-249-432-11	CARBON 18K 5%	1/4W
Q963	8-729-216-22	TRANSISTOR 2SA1162-G		R1945	1-216-476-11	METAL OXIDE 180 5%	3W F
Q965	8-729-422-27	TRANSISTOR 2SD601A-Q		R1946	1-249-417-11	CARBON 1K 5%	1/4W F
Q966	8-729-216-22	TRANSISTOR 2SA1162-G		R1947	1-249-432-11	CARBON 18K 5%	1/4W
Q981	8-729-422-27	TRANSISTOR 2SD601A-Q		R1948	1-249-414-11	CARBON 560 5%	1/4W
RESISTOR				R1949	1-249-384-11	CARBON 1.8 5%	1/4W F
R943	1-216-025-91	RES, CHIP 100 5%	1/10W	R1950	1-249-400-11	CARBON 39 5%	1/4W F
R948	1-216-049-91	RES, CHIP 1K 5%	1/10W	<div>WB</div>			
R949	1-216-049-91	RES, CHIP 1K 5%	1/10W				
R950	1-216-049-91	RES, CHIP 1K 5%	1/10W	*A-1372-508-A WB BOARD, COMPLETE (KV-32V68 ONLY)			
R951	1-216-049-91	RES, CHIP 1K 5%	1/10W	4-382-854-11 SCREW (M3X10), P, SW (+)			
R952	1-216-037-00	RES, CHIP 330 5%	1/10W	CAPACITOR			
R953	1-216-021-00	RES, CHIP 68 5%	1/10W	C2941	1-126-935-11	ELECT 470MF 20%	16V
R954	1-216-033-00	RES, CHIP 220 5%	1/10W	C2944	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
R955	1-216-047-91	RES, CHIP 820 5%	1/10W	C2946	1-126-933-11	ELECT 100MF 20%	16V
R956	1-216-295-91	SHORT		C2949	1-161-830-00	CERAMIC 0.0047MF	500V
R957	1-216-073-00	RES, CHIP 10K 5%	1/10W	C2950	1-126-933-11	ELECT 100MF 20%	16V
R958	1-216-295-91	SHORT		C2951	1-107-638-11	ELECT 33MF 20%	160V
R959	1-216-021-00	RES, CHIP 68 5%	1/10W	C2952	1-104-999-11	MYLAR 0.1MF 10%	200V
R960	1-216-689-11	RES, CHIP 39K 5%	1/10W	C2953	1-106-383-00	MYLAR 0.047MF 10%	200V
R961	1-216-073-00	RES, CHIP 10K 5%	1/10W	C2954	1-130-471-00	FILM 0.001MF 5%	50V
R962	1-216-057-00	RES, CHIP 2.2K 5%	1/10W	C2955	1-107-667-11	ELECT 2.2MF 20%	160V
R963	1-216-097-91	RES, CHIP 100K 5%	1/10W	C2956	1-130-471-00	FILM 0.001MF 5%	50V
R964	1-216-073-00	RES, CHIP 10K 5%	1/10W	C2957	1-106-383-00	MYLAR 0.047MF 10%	200V
R965	1-216-073-00	RES, CHIP 10K 5%	1/10W	C2958	1-126-933-11	ELECT 100MF 20%	16V
R966	1-216-097-91	RES, CHIP 100K 5%	1/10W	C2975	1-163-001-11	CERAMIC CHIP 220PF 10%	50V
R967	1-216-065-91	RES, CHIP 4.7K 5%	1/10W	CONNECTOR			
R968	1-216-083-00	RES, CHIP 27K 5%	1/10W	CN2941	* 1-564-508-11	PLUG, CONNECTOR 5P	
R969	1-216-295-91	SHORT		DIODE			
R970	1-216-033-00	RES, CHIP 220 5%	1/10W	D2941	8-719-991-33	DIODE 1SS133T-77	
R971	1-247-899-11	CARBON 680K 5%	1/4W	D2946	8-719-110-88	DIODE RD39ESB2	
R972	1-216-073-00	RES, CHIP 10K 5%	1/10W	D2947	8-719-110-88	DIODE RD39ESB2	
R973	1-216-121-91	RES, CHIP 1M 5%	1/10W	COIL			
R974	1-216-073-00	RES, CHIP 10K 5%	1/10W	L2942	1-215-863-11	METAL OXIDE 100 5% 1W	F
R975 \triangle	1-216-446-00	METAL OXIDE 18 5%	2W F	TRANSISTOR			
R976 \triangle	1-216-423-11	METAL OXIDE 27 5%	1W F	Q2943	8-729-422-27	TRANSISTOR 2SD601A-Q	
R979	1-216-017-91	RES, CHIP 47 5%	1/10W	Q2944	8-729-422-27	TRANSISTOR 2SD601A-Q	
R981	1-216-081-00	RES, CHIP 22K 5%	1/10W	Q2945	8-729-422-27	TRANSISTOR 2SD601A-Q	
R982	1-216-081-00	RES, CHIP 22K 5%	1/10W	Q2946	8-729-017-05	TRANSISTOR 2SA1837	
R983	1-216-081-00	RES, CHIP 22K 5%	1/10W				
R984	1-216-081-00	RES, CHIP 22K 5%	1/10W				
R987	1-216-049-91	RES, CHIP 1K 5%	1/10W				
R988	1-216-295-91	SHORT					
R989	1-216-304-11	RES, CHIP 3.3 5%	1/10W				
R992	1-216-073-00	RES, CHIP 10K 5%	1/10W				



REF. NO.	PART NO.	DESCRIPTION	REMARK
Q2947	8-729-017-06	TRANSISTOR 2SC4793	
Q2965	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2966	8-729-216-22	TRANSISTOR 2SA1162-G	
RESISTOR			
R2943	1-216-025-91	RES, CHIP 100 5%	1/10W
R2948	1-216-049-91	RES, CHIP 1K 5%	1/10W
R2949	1-216-049-91	RES, CHIP 1K 5%	1/10W
R2950	1-216-049-91	RES, CHIP 1K 5%	1/10W
R2951	1-216-049-91	RES, CHIP 1K 5%	1/10W
R2952	1-216-037-00	RES, CHIP 330 5%	1/10W
R2953	1-216-021-00	RES, CHIP 68 5%	1/10W
R2954	1-216-033-00	RES, CHIP 220 5%	1/10W
R2955	1-216-047-91	RES, CHIP 820 5%	1/10W
R2956	1-216-295-91	SHORT	
R2957	1-216-073-00	RES, CHIP 10K 5%	1/10W
R2958	1-216-295-91	SHORT	
R2959	1-216-021-00	RES, CHIP 68 5%	1/10W
R2979	1-216-017-91	RES, CHIP 47 5%	1/10W
R4941	1-260-311-51	CARBON 39 5%	1/2W
R4942	1-249-384-11	CARBON 1.8 5%	1/4W F
R4943	1-249-414-11	CARBON 560 5%	1/4W F
R4944	1-249-432-11	CARBON 18K 5%	1/4W
R4945	1-216-476-11	METAL OXIDE 180 5%	3W F
R4946	1-249-417-11	CARBON 1K 5%	1/4W F
R4947	1-249-432-11	CARBON 18K 5%	1/4W
R4948	1-249-414-11	CARBON 560 5%	1/4W
R4949	1-249-384-11	CARBON 1.8 5%	1/4W F
R4950	1-249-400-11	CARBON 39 5%	1/4W F
ACCESSORIES AND PACKING MATERIALS			
3-862-569-21	MANUAL, INSTRUCTION (ENGLISH)		
3-862-569-31	MANUAL, INSTRUCTION (FRENCH)		
* 4-054-067-02	CUSHION (UPPER) (ASSY)	(KV-32V68)	
* 4-067-387-01	CUSHION (UPPER) (ASSY)	(KV-35V68)	
* 4-054-070-04	CUSHION (LOWER) (ASSY)	(KV-32V68)	
* 4-067-388-01	CUSHION (LOWER) (ASSY)	(KV-35V68)	
* 4-041-259-01	BAG, PROTECTION	(KV-32V68)	
* 4-053-658-01	BAG, PROTECTION	(KV-35V68)	
* 4-054-073-01	CARTON, INDIVIDUAL	(KV-32V68)	
* 4-065-458-01	CARTON, INDIVIDUAL	(KV-35V68)	
INFRARED BLASTER			
1-782-913-21	IR BLASTER		
REMOTE COMMANDER			
1-475-930-11	REMOTE COMMANDER (RM-Y154)		
4-978-977-01	BATTERY COVER (FOR REMOTE)		

